

Frontier Hard Chrome
Event 10 Long-Term Monitoring Report
(March 2007 Results)

Department of Ecology Contract: C0500198

May 2007



Weston Solutions, Inc. · 190 Queen Anne Avenue North · Seattle, WA 98109-4926

**FRONTIER HARD CHROME
LONG-TERM MONITORING REPORT
EVENT 10—MARCH 2007
VANCOUVER, WASHINGTON**

Prepared for

**Washington State Department of Ecology
PO Box 47600
Olympia, Washington 98504**

Contract No. C0500198

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May 2007

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Prepared _____ Date: May 25, 2007
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SECTION 1

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This Long Term Monitoring Report has been prepared under Contract C0500198 to the State of Washington Department of Ecology (Ecology) for Long Term Monitoring of the Frontier Hard Chrome (FHC) site located in Vancouver Washington.

This report describes the sampling activities performed and analytical results obtained during “Event 10” of the long-term groundwater monitoring program at FHC. Sampling activities for Event 10 were conducted during March 2007.

The FHC site was the subject of a remedial action conducted during the summer of 2003. The purpose of the remedial action (RA) was to treat the site’s chromium-contaminated soil and groundwater to cleanup levels specified in the Record of Decision. Long term monitoring is required to track offsite plume concentrations as well as show that the remedy is maintaining its operational functionality.

The first 3 groundwater monitoring events (Events 1 through 3) were conducted for the United States Environmental Protection Agency (EPA). In October 2004, responsibility for this site was turned over to Ecology. Ecology contracted Weston Solutions, Inc. (Weston) to perform the next 2 rounds of monitoring (Events 4 and 5) as a result of Weston’s familiarity with this site and the associated property owners. Ecology amended Weston’s contract in February 2006 to perform 6 additional rounds of quarterly monitoring with the last to be completed in June 2007.

All Event 10 work was performed in accordance with project work plan titled *Frontier Hard Chrome, Long Term Monitoring Plan* (Weston 2004).

1.2 BACKGROUND AND PROBLEM DEFINITION

1.2.1 Site Background

The FHC site is located in southeastern Vancouver, Washington (Figure 1). The facility address is 113 “Y” Street, Vancouver, Washington. The site is located in the Section 25, Township 2 north, Range 1 east, Willamette Meridian in Clark County, Washington. The location in latitude and longitude coordinates is 45 degrees, 37 minutes, 19 seconds north by 122 degrees, 38 minutes 45 seconds east (Degrees, Minutes, Seconds [DMS]). The site was previously occupied by several metals fabricating businesses and was used for storage and as a staging area for a neighboring business. Currently, no buildings exist on the site and the site is vacant. A truck driving school is operating on the parcel south of the site.

The FHC site proper covers approximately 0.5 acres and is bordered to the east by Grand Avenue, to the south by Test-U, and to the west by “Y” Street.

Work began on the remedial design in October 2001. The remedial design was completed in February 2003. The remedial action, consisting of building demolition, treatment of source area soil and groundwater, and installation of an in-situ redox manipulation (ISRM) treatment wall (to treat hexavalent chromium), was completed in September 2003.

1.2.2 Problem Definition

The goal of the remedial action was to treat source area soil and groundwater to reduce hexavalent chromium concentrations such that groundwater downgradient of the site would attenuate to chromium concentrations less than 50 micrograms per liter (ug/L). To demonstrate this, groundwater quality was monitored in two areas. The first area consisted of locations immediately within and down gradient of the ISRM wall. Wells located within and just down gradient of the wall were monitored to ensure the continued operational functionality of the ISRM Treatment Wall. The second area monitored consisted of the historical chromium contaminated groundwater plume located down gradient of the ISRM wall. This down gradient plume did not receive treatment during the remedial action and was monitored to track the long-term expected reduction in chromium concentration as a result of completing the remedial action and elimination of the source of hexavalent chromium.

Long-term groundwater monitoring is required by the site’s Record of Decision.

1.3 MONITORING SCHEDULE

Sampling events performed for EPA were conducted approximately quarterly for the first year after completion of the remedial action. Planned sampling events were completed in February, April, and August 2004. The sampling event performed the week of 16 August 2004 concluded monitoring for approximately one year after the remedial action was completed.

In September/October 2004, monitoring of the FHC site was turned over to the Washington State Department of Ecology. Sampling of the site groundwater for Ecology occurred in May 2005 and again in December 2005. In February 2006, Ecology amended Weston’s contract to perform 6 additional rounds of monitoring to be done quarterly: March 2006, June 2006, September 2006, December 2006, March 2007 and June 2007.

SECTION 2

SAMPLING ACTIVITIES AND RESULTS

2.1 MONITORING WELL SAMPLING PROCEDURES

Sampling activities for Event 10 were conducted on March 29th through April 1st, 2007 by Weston Solutions, Inc, (Weston).

The monitoring wells in the vicinity of the FHC site are shown on Figure 2. A total of 33 wells in the vicinity of the site were sampled for metals in accordance with the *Long Term Monitoring Plan* (Weston 2004). Also during this round, Weston assisted the U.S. EPA in collecting groundwater samples from ten wells including W85-3A and W85-3B which are not routinely sampled under the Long Term Monitoring Program for this site. Weston collected no samples from wells W85-3A and W85-3B.

Well purging and sampling were performed according to sampling guidelines and Weston standard operating procedures. The wells were sampled with a peristaltic pump equipped with new polyethylene tubing deployed to mid-screen depth at each well. The wells were purged prior to sampling until monitored field parameters (turbidity, conductivity, pH, dissolved oxygen, ORP, and temperature) stabilized. The field parameter readings were recorded on field sampling forms.

Groundwater samples were analyzed for total analyte list (TAL) metals. In cases where groundwater turbidity was greater than 10 nephelometric turbidity units, samples were passed through a 0.45-micron filter in the field and submitted for dissolved TAL metals. Two wells (RA-MW-12A, B87-8) had turbidity in excess of 10 NTU during this sampling event. Also during Event 10, both total and dissolved metals analyses were performed on samples collected from RA-MW-15B and RA-MW-16B at Ecology's request and from wells RA-MW-11A and RA-MW-11B due to the presence of significant black particulate in the sample.

Selected samples were analyzed for total sulfur and sulfate to provide an assessment of the distribution of byproducts from the reducing agent used during ISRM wall installation.

Groundwater chromium concentrations are provided in Table 1. Measured field parameters are provided in Table 2.

2.2 ANALYTICAL RESULTS

2.2.1 Chromium

Chromium was detected in 30 of the 33 wells sampled. The detection limit for chromium during this round was 0.5 ug/L.

Total detected chromium concentrations in the “A” zone ranged from a maximum concentration of 79 ug/L in well RA-MW-12A to 0.6 ug/L in well W92-16A. All “A” zone wells except RA-MW-12A and B87-8 had total chromium concentrations less than or equal to 5 ug/L. Monitoring well RA-MW-12A (which has generally had the highest concentration of chromium) had a dissolved chromium concentration of 5.0 ug/L. Filtered samples (in addition to unfiltered samples) have been routinely collected from well RA-MW-12A due to its high turbidity.

“A” zone chromium concentrations and plume contours are shown in Figure 3. Filtered sample data were used in preparing Figure 3 where available.

Total detected chromium concentrations in “B” zone groundwater ranged from a maximum of 121 ug/L (well RA-MW-16B) downgradient of the site to 0.9 ug/L in well W97-18B. With the exception of wells RA-MW-15B and RA-MW-16B, all other “B” zone wells contained total chromium less than 4 ug/L. The filtered samples from wells RA-MW-15B and RA-MW-16B had chromium concentrations of 9 ug/L and 8 ug/L, respectively.

“B” zone chromium concentrations and plume contours are shown in Figure 4. Filtered sample data were used in preparing Figure 4 where available.

Figures showing the chromium concentration trends in groundwater over time are included in Appendix A. Data from wells sampled during Operational and Functional monitoring in November and December 2003 are included in these figures where available to assist in determining trends. Laboratory chromium data sheets for the March 2007 sampling event are provided in Appendix B.

Figures 3, 4, and those in Appendix A used filtered chromium values where available. In this latest March 2007 round of sampling, turbidity exceeded 10 NTU in two wells, RA-MW-12A and B87-8. Filtered samples were also collected from wells RA-MW-15B, RA-MW-16B, RA-MW-11A and RA-MW-11B. Filtered samples were collected from wells RA-MW-15B and RA-MW-16B at the request of Ecology to assist in determining the cause of the elevated total chromium concentrations in previous sampling events. Filtered samples were collected from RA-MW-11A and RA-MW-11B due to the presence of significant levels of black particulate in the sample.

2.2.2 Water Quality

Dissolved oxygen (DO) concentrations ranged from a low of 0 mg/L to a high of 5.7 mg/L. DO averaged 0.16 mg/L in samples collected within the ISRM Treatment Wall. The DO concentrations indicate the wall is still reductive which is necessary for treatment of hexavalent chromium. Samples of groundwater collected downgradient of the ISRM Treatment Wall had similar concentrations of DO as those within the treatment wall during this round of sampling. The downgradient DO concentrations were lower than usual.

pH ranged from 6.2 to 7.9. The highest pH during this round was located in well RA-MW-12B; this pH is not unusual since this well contains high concentrations of reagents.

The highest sulfur and sulfate concentrations were located within the treatment wall. Maximum sulfur and sulfate concentrations in groundwater were 311 mg/L and 954 mg/L, respectively. Concentrations of sulfur and sulfate were significantly lower immediately downgradient of the wall.

2.3 GROUNDWATER FLOW DIRECTION AND ELEVATION

Groundwater surface elevations were determined using the known elevation of the top of each well casing and the depth to groundwater measured in each long term monitoring well. The depth to groundwater measurements were collected during late morning of 01 April 2007. The Columbia River elevation at the United States Geological Survey (USGS) gauging station 14144700 located at the nearby I-5 bridge was obtained for use in determining flow direction. The elevation of the river at 1200 hours on 01 April 2006 was 10.02 feet (corrected to NGVD 1929 by adding 1.82 feet to the measured river elevation). The river elevation information can be obtained from <http://waterdata.usgs.gov/wa/nwis/>.

Groundwater surface elevations for each well measured are shown in Table 4. The groundwater flow direction (as determined using groundwater surface elevations measured in each well within a period of 1.5 hours) is heading towards the FHC site. A horizontal gradient was calculated for 01 April 2007 with a result of 0.00008 ft/ft with a flow direction away from the Columbia River towards the northwest. The groundwater table during this period had a drop in elevation of 0.18 feet over a distance of approximately 2,400 feet.

Groundwater elevation and gradient information is graphically shown in Figure 5.

2.4 QUALITY ASSURANCE

Data quality was checked by running field duplicates. Laboratory duplicates and matrix spike analyses were performed by the lab. Table 5 shows the quality control results.

Field duplicates were run on both filtered and unfiltered samples during this sampling event. Filtered duplicate results had good correlation with original sample results (relative percent difference of 0% to 8%).

2.5 INVESTIGATION-DERIVED WASTES

Investigation-derived waste (IDW) generated during the sampling event consisted of well purge water, used PPE, and disposable sampling supplies. During sampling, purge water was stored on site in 5-gallon buckets. At the completion of sampling, the water was transported to the City of Vancouver's operations center and disposed of in accordance with the disposal permit issued to Weston by the city. Approximately 62 gallons of water was disposed. Personnel protective equipment and other solid wastes were disposed of in a dumpster.

2.6 DISCUSSION AND CONCLUSIONS

Chromium concentrations in onsite “A” zone groundwater in and around the ISRM Treatment Wall were less than 10 ug/L (using dissolved chromium concentrations where available). Chromium concentrations in groundwater between the ISRM Treatment Wall and East 1st Street were less than 5 ug/L. Chromium concentrations in well B87-8, located south of East 1st Street, were 8 ug/L. Concentrations of chromium in samples collected during this round of sampling were very similar to those collected in December 2006. In general, the chromium concentrations in groundwater on and downgradient of the site were relatively uniform during the March 2007 sampling event with almost all chromium concentration less than 5 ug/L.

The deeper “B” zone groundwater downgradient of the site contained chromium in concentrations similar to that in the “A” zone. Chromium concentrations in “B” zone groundwater on and downgradient of the site were almost all less than 5 ug/L.

Wells RA-MW-15B and RA-MW-16B have had anomalously elevated chromium concentrations in unfiltered samples beginning in May 2005. Small black particulate was also observed in samples collected from these wells in December 2005 and have typically appeared in samples collected since that time. Therefore, both unfiltered and filtered samples were collected from these wells during this sampling event regardless of turbidity. The unfiltered sample from well RA-MW-15B had a chromium concentration of 32 ug/L whereas the filtered sample had a chromium concentration of 9 ug/L. The unfiltered sample from well RA-MW-16B had a chromium concentration of 121 ug/L whereas the filtered sample had a chromium concentration of 8 ug/L. In this round of sampling, the dissolved chromium concentration in wells RA-MW-15B and RA-MW-16B were similar, however, well RA-MW-16B had a much higher concentration of total chromium compared to well RA-MW-15B.

Well RA-MW-16A located downgradient of the treatment wall had evidence that reagents had reached this well. This well had a faint sulfur smell.

Dissolved oxygen data collected from within the ISRM Treatment Wall indicates that an area of reducing conditions still exists implying the hexavalent chromium treatment zone is still active. Most locations within the treatment wall contain dissolved oxygen at concentrations less than 1.0 mg/L and negative oxygen reduction potential (ORP) implying reducing conditions are present.

Sulfur/sulfate concentrations within the ISRM Treatment Wall have fluctuated while sulfur/sulfate concentrations downgradient of the ISRM Treatment Wall have generally increased since February 2004. Sulfur/sulfate concentrations in well B87-8 and B85-4 located across East 1st Street (downgradient of the site) have increased by a factor of approximately 2 to 5 since February 2004. Sulfur and sulfate concentrations were less than 110 mg/L and 370 mg/L in most locations sampled during March. Also noted during March sampling was an unusual increase in the sulfur and sulfate concentrations in Wells W85-6A and W85-7A located approximately 600 feet downgradient of the former Frontier Hardchrome Building. The concentration of sulfur and sulfate during this round of sampling was at least twice previous concentrations.

Table 6 provides the volatile organic carbon (VOC) results from sampling of selected wells. This sampling was performed by the U.S. Environmental Protection Agency with assistance from Weston Solutions, Inc. on March 30th 2007.

SECTION 3

ANALYTICAL METHODS AND DATA VALIDATION

3.1 ANALYTICAL METHODS REQUIREMENTS AND DATA VALIDATION

The laboratory data quality assurance review and validation of analytical results for 41 water samples has been completed. Samples were collected between 29 March 2007 and 01 April 2007 from the Frontier Hard Chrome site and were analyzed for dissolved and total recoverable chromium.

The quality assurance review was performed on the laboratory data sheets and the WDOE memorandum to ensure that the analytical results met data quality objectives for the project. All laboratory quality assurance results as applicable (e.g., holding times, blank sample analysis, matrix spike/duplicate analysis, laboratory control sample analysis) supplied to Weston for the analyses met acceptance criteria specified in the work plan (Weston 2004), with no exceptions noted.

Samples **RA-MW-15B**, **RA-MW-16B**, **RA-MW-11A**, **RA-MW-11B**, **RA-MW-12A** and **B87-8** were collected both as total recoverable (unfiltered) and dissolved (field-filtered) fractions – with one fraction submitted for total recoverable chromium analysis and the other filtered at the time of collection and submitted for dissolved chromium analysis. Samples **B87-8** and **RA-MW-15B** were collected as a field duplicates for total recoverable and dissolved chromium analysis, respectively.

Data validation documentation is provided in Appendix C.

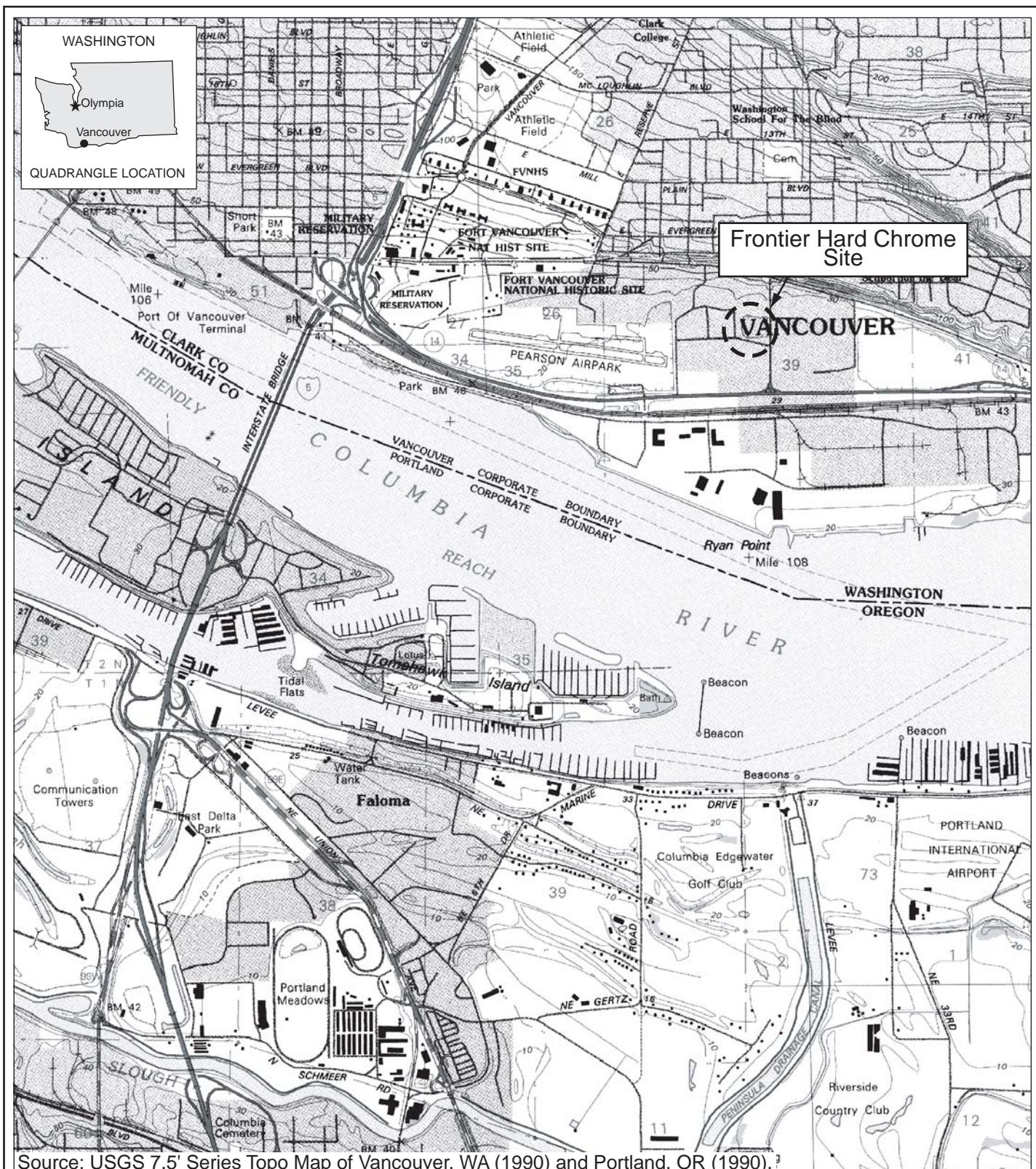
SECTION 4

REFERENCES

EPA (United States Environmental Protection Agency), 2003. Statement of Work for Long Term Response Action. Frontier Hard Chrome, Vancouver, WA. December 30th, 2003.

Weston (Weston Solutions, Inc.), 2004. Frontier Hard Chrome Long Term Monitoring Plan. Prepared for the U.S. Environmental Protection Agency, Region 10, Seattle, Washington. February.

FIGURES



Source: USGS 7.5' Series Topo Map of Vancouver, WA (1990) and Portland, OR (1990).



0 1000 2000

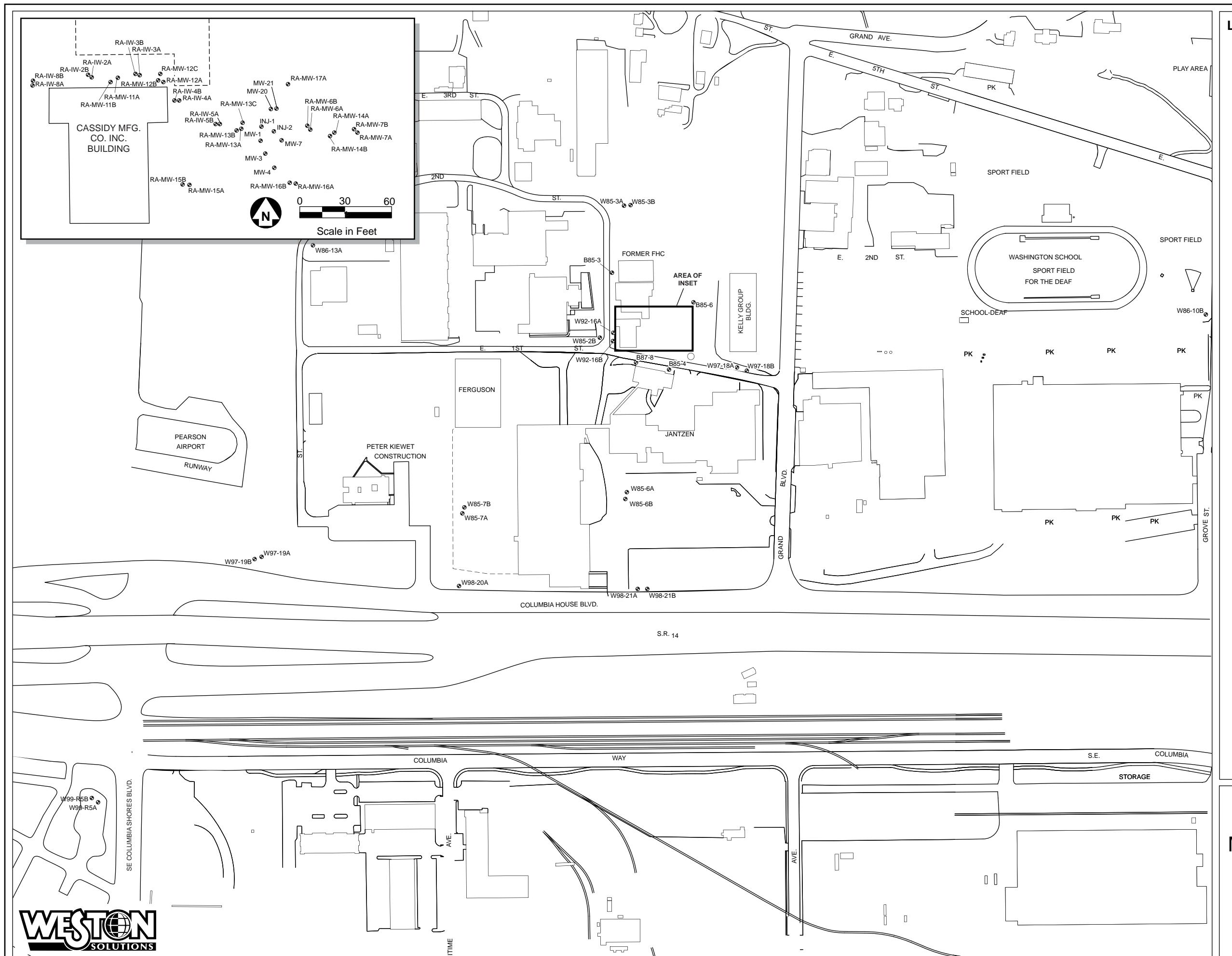
Scale in Feet

The logo for Weston Solutions features the word "WESTON" in a bold, black, sans-serif font. The letter "O" is replaced by a globe icon with a grid pattern. Below "WESTON", the word "SOLUTIONS" is written in a smaller, black, sans-serif font.

Frontier Hard Chrome Vancouver, Washington Vicinity Map

Figure

1

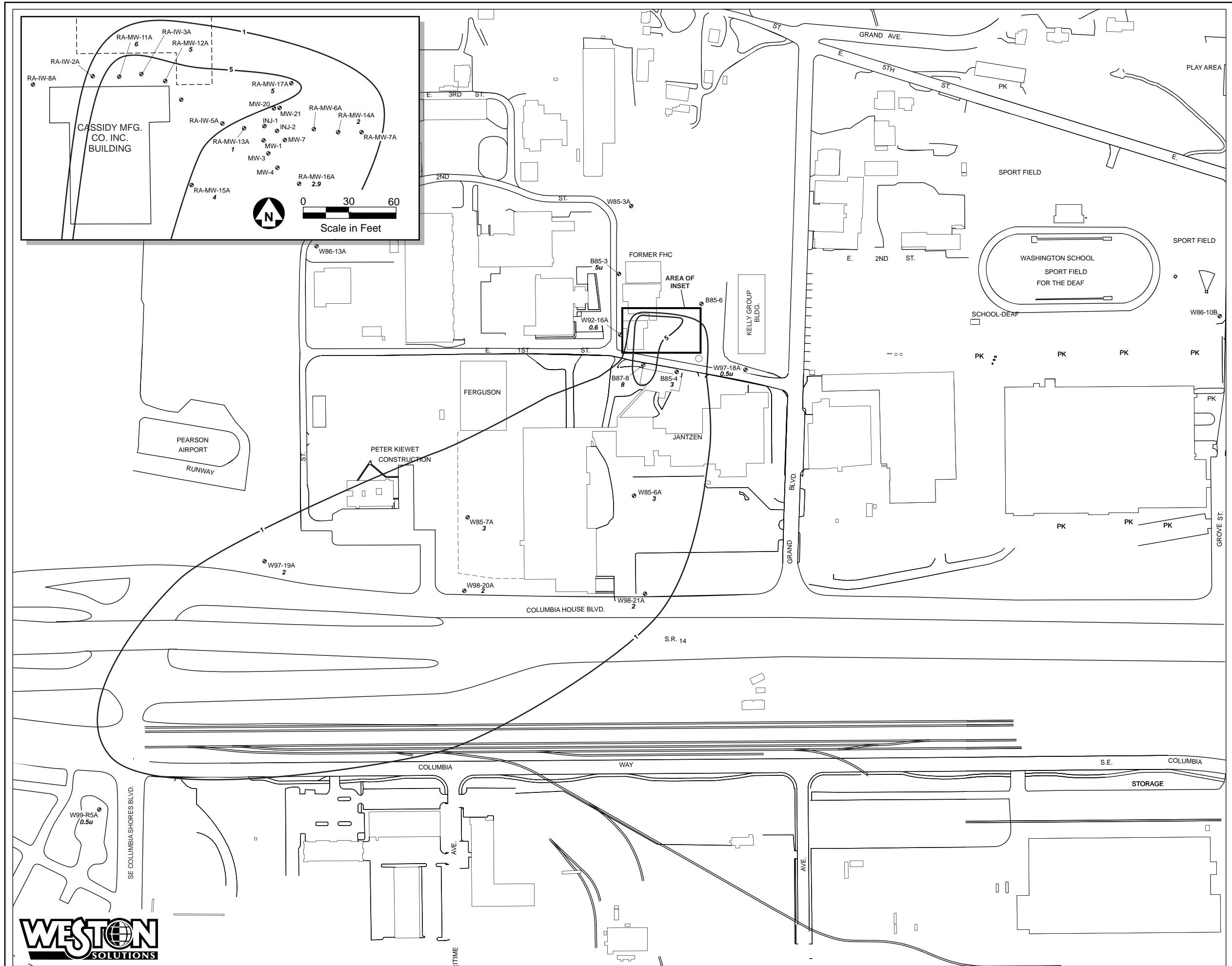


LEGEND

W85-5B  Monitoring Well Location and ID

— — — Fence

Frontier Hard Chrome Vancouver, Washington Monitoring Well Locations

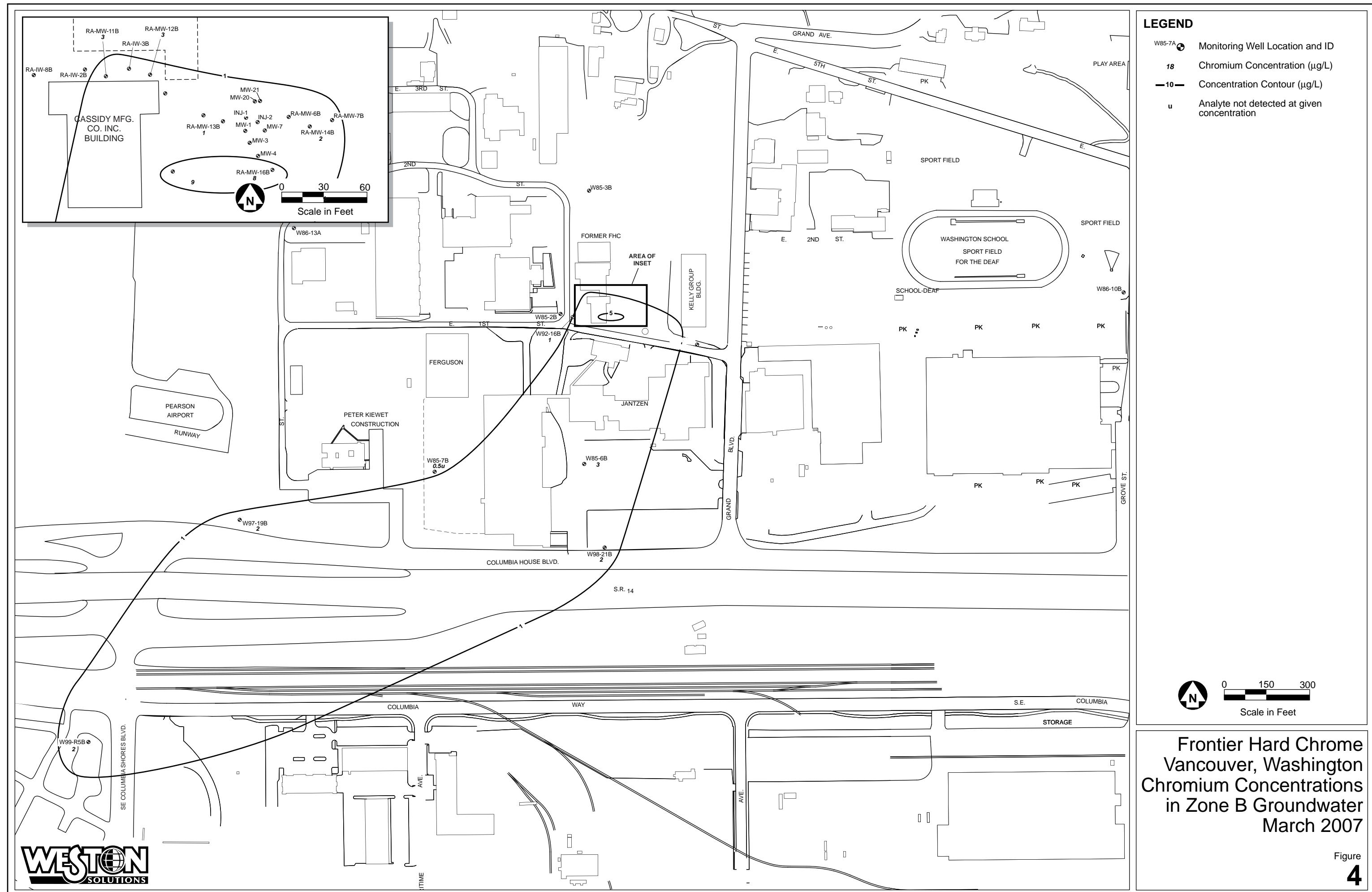


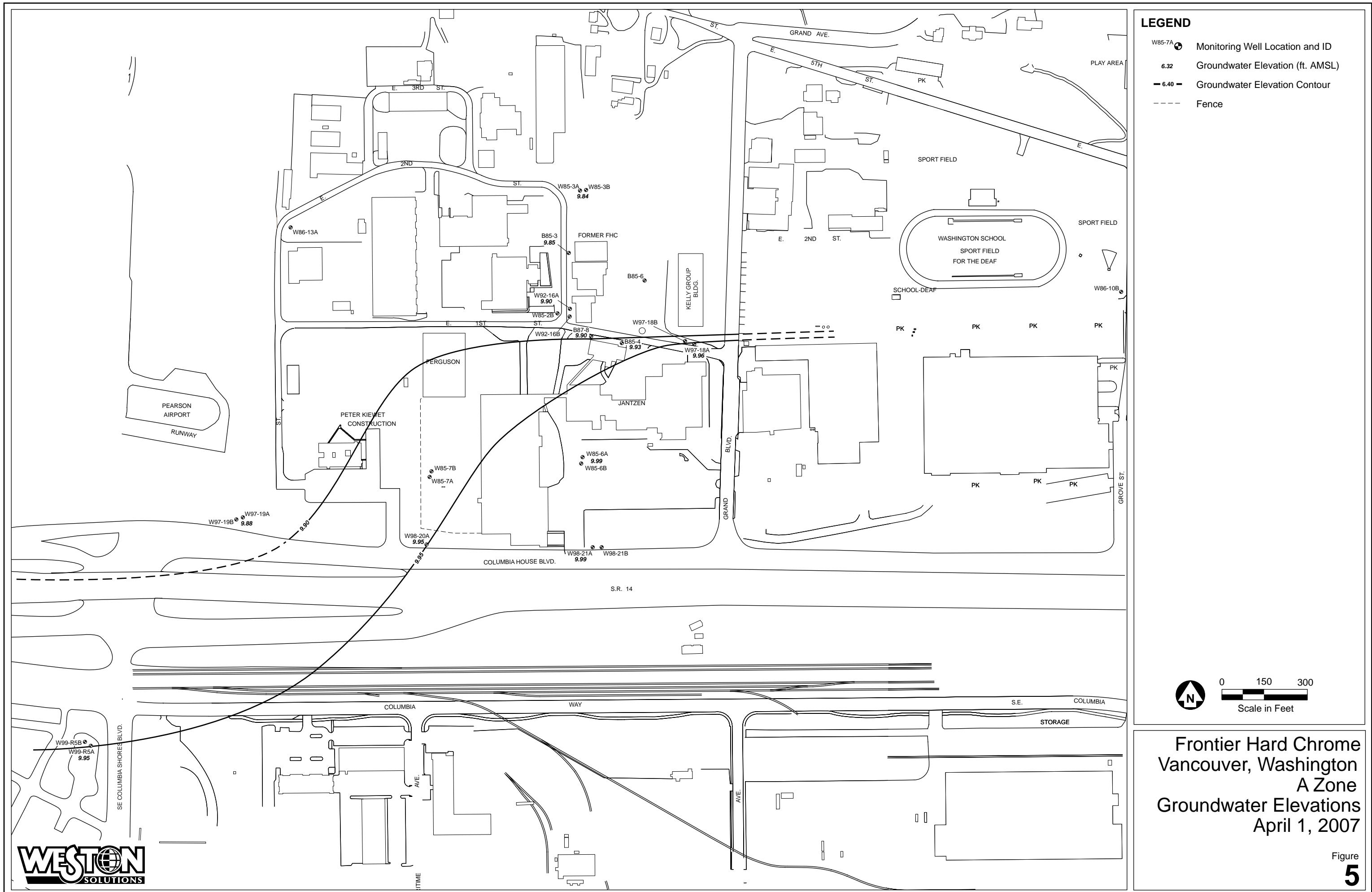
LEGEND

- W85-7A  Monitoring Well Location and ID
- 1.7 Chromium Concentration ($\mu\text{g/L}$)
- 10 —** Concentration Contour ($\mu\text{g/L}$)
- u** Analyte not detected at given concentration

A scale bar with three segments. The first segment is black, the second is white, and the third is black. Above the bar are the numbers 0, 150, and 300. Below the bar is the text "Scale in Feet".

Frontier Hard Chrome Vancouver, Washington Chromium Concentrations in Zone A Groundwater March 2007





TABLES

Table 1—Frontier Hard Chrome—Event 10 Chromium Results

Well Number	Concentration (ug/L)		Sample Observations
	Total	Dissolved	
RA-MW-12A	79.3	5	Purge water was a clear yellow-green with small black particulate. Strong sulfur smell. Color did not clear up.
RA-MW-12B	3.4	--	Light yellow-green color, sulfur smell. Color stayed in sample throughout purging. As sample sits, it turns cloudy, NTU increases.
RA-MW-12C	5.6	--	Cloudy white at beginning of purge, faint sulfur odor.
RA-MW-11A	4.6	6.4	Clear, strong sulfur smell. Lots of black particulate in sample. Sample turns black after sitting.
RA-MW-11B	2.7	3	Purge water initially black, lots of particulate, strong sulfur smell.
RA-MW-13A	1.4	--	Cloudy yellow-green, faint sulfur odor.
RA-MW-13B	1.2	--	
RA-MW-13C	2.2	--	
RA-MW-17A	5	--	Clear, faint sulfur odor.
RA-MW-14A	2.2	--	Clear, faint sulfur odor at start of purging.
RA-MW-14B	1.5	--	Cloudy white, faint sulfur odor.
RA-MW-16A	2.9	--	Clear, faint sulfur odor.
RA-MW-16B	121	7.9	Clear, faint sulfur odor. Black particulate.
RA-MW-15A	3.7	--	
RA-MW-15B	31.7	9.2	Cloudy, no odor.
B87-8	20.2	7.8	Small black particulate in sample.
B85-3	2.5	--	Clear, faint sulfur odor.
W92-16A	0.56	--	
W92-16B	1.4	--	
B85-4	2.8	--	Few black particulate at end of sampling.
W97-18A	0.5U	--	
W97-18B	0.88	--	
W85-7A	2.7	--	
W85-7B	0.5U	--	
W97-19A	2	--	Cloudy white.
W97-19B	2	--	Cloudy white.
W98-20A	1.7	--	
W99-R5A	0.5U	--	
W99-R5B	1.9	--	
W98-21A	1.7	--	
W98-21B	1.5	--	
W85-6A	3.4	--	
W85-6B	2.9	--	

-- denotes no sample collected

U: denotes analyte was not detected

J: denotes estimate.

Table 2—Frontier Hard Chrome—Event 10 Monitoring Field Parameters¹

Well Number	Temp C	Spec. Cond. (mS/cm)	DO (mg/L)	pH	ORP (mV)	Sulfur ² (mg/L)	Sulfate ² (mg/L)	Turbidity (NTU)
RA-MW-12A	14.0	0.85	0	7.86	-324			85
RA-MW-12B	14.3	1.12	0	7.94	-313			2.2
RA-MW-12C	13.3	0.65	0.01	7.8	-137			3.4
RA-MW-11A	13.8	1.75	0	6.69	-260	311	954	4.1
RA-MW-11B	13.6	1.21	0	7.01	-261			3.7
RA-MW-13A	13.8	1.34	0.04	7.08	-125	107	362	7.7
RA-MW-13B	13.9	1.23	0.09	7.06	-144			0.5
RA-MW-13C	13.9	0.93	0.06	7.44	-133			3.5
RA-MW-17A	13.1	1.04	0.11	6.59	-128			1.2
RA-MW-14A	10.8	0.87	0.6	6.65	-104	107	358	0.5
RA-MW-14B	11.3	0.87	0.9	6.82	-141			6
RA-MW-16A	14.0	1.02	0.05	6.71	-112			1.7
RA-MW-16B	14.3	1.05	0.05	6.78	-88			3.7
RA-MW-15A	15.3	1.1	0.04	6.61	13			0.3
RA-MW-15B	14.8	1.16	0.06	6.48	48			2.4
B87-8	14.4	0.39	0.01	6.71	170	34	113	11
B85-3	12.5	0.84	0.02	6.68	-43			5.1
W92-16A	13.3	0.57	0.13	6.52	76			2.5
W92-16B	13.3	0.57	0.8	7.62	71			6.8
B85-4	14.6	739	0.03	6.53	182	59	201	1.4
W97-18A	11.6	0.16	0.90	6.32	119			8.5
W97-18B	12.0	0.23	1.09	6.61	123			2.1
W85-7A	12.7	219	0.18	6.33	186	10	30	0
W85-7B	13.0	0.01	0.1	6.23	187			0.6
W97-19A	13.8	0.24	1	6.58	71			3.3
W97-19B	14.2	0.23	0.52	6.76	74			6.9
W98-20A	13.1	0.18	5.7	6.41	91			2.4
W99-R5A	13.9	0.22	4.90	6.30	100	5	16	0.3
W99-R5B	13.5	0.24	3.40	6.63	92			10
W98-21A	13.7	0.29	0.07	6.43	-55			0.2
W98-21B	13.5	0.31	0.02	6.39	111			0.1
W85-6A	13.2	0.36	0.09	6.47	172	26	85	0.5
W85-6B	13.1	0.24	0.05	6.83	164			4.6

¹Parameters measured after readings stabilized.

²Sulfur and sulfate data obtained from laboratory analyses.

*: Denotes sulfur interference with dissolved oxygen readings.

Table 3—Comparison of Conventional Parameters

Well #	Temp (C)										Conductivity (mS/cm)										
	Feb-04	Apr-04	Aug-04	May-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Feb-04	Apr-04	Aug-04	May-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	
RA-MW-12A	14.9	15.9	17.9	15.2	14.9	14.6	14.3	14.9	13.9	14.0	6.01	5.4	4	3.32	2.52	2.47	2.37	2.26	2.95	0.85	
RA-MW-12B	14.4	16.6	16.7	15.6	14.3	14.9	14.4	14.5	13.4	14.3	2.25	1.19	1.52	2.56	2.47	1.34	1.39	1.19	2.12	1.12	
RA-MW-12C	14.4	16.5	16.6	15.1	14.2	14.3	14.2	14.2	13.1	13.3	2.18	1.34	1.13	0.68	1.09	0.69	0.88	0.53	1.05	0.65	
RA-MW-11A	15.7	16.5	17.4	15.7	15.0	15.1	15.1	14.9	13.7	13.8	1.67	1.89	2.02	1.48	1.82	2.01	1.46	1.7	2.21	1.75	
RA-MW-11B	14.9	16.3	17	15.6	14.9	14.7	14.7	14.7	13.4	13.6	1.49	2.08	2.02	1.72	2.25	1.17	0.94	1.1	1.50	1.21	
RA-MW-13A	15	14.6	15.73	14.9	14.5	14.3	13.7	14.1	12.8	13.8	5.21	2.42	3.29	2.83	2.49	2.17	1.66	1.13	2.33	1.34	
RA-MW-13B	14.8	14.7	15.4	14.9	14.2	14.3	14.1	14.2	13.0	13.9	3.73	1.38	2.15	2.41	2.16	0.81	0.82	0.5	2.22	1.23	
RA-MW-13C	14.2	15	14.9	14.5	14.3	13.8	13.8	14.1	12.4	13.9	3.07	1.82	1.41	1.28	0.71	0.79	0.82	0.57	1.36	0.93	
RA-MW-17A	14.3	15.3	16.7	15.1	14.5	13.7	--	13.9	13.4	13.1	1.8	1.8	1.8	1.39	1.18	1.3	--	1.18	1.30	1.04	
RA-MW-14A	13.9	14.3	15.3	14.6	14.7	10.8	--	13.6	12.7	10.8	1.43	1.71	1.96	1.08	0.88	0.87	--	0.92	0.77	0.87	
RA-MW-14B	14	14.9	15.5	14.5	14.1	12.3	--	14.0	12.8	11.3	1.56	1.21	0.98	1.08	1	0.78	--	0.69	0.89	0.87	
RA-MW-16A	14.3	14.9	16	14.9	15.1	13.3	13.4	14.8	13.8	14.0	2.95	1.46	2	1.7	1.07	1.04	1.01	0.8	1.13	1.02	
RA-MW-16B	14.3	14.6	16	14.7	13.9	13.7	13.8	15.2	13.4	14.3	2.42	1.19	1.4	1.81	0.92	0.67	0.51	0.43	1.34	1.05	
RA-MW-15A	14.3	14.5	15	15	14.7	14.8	14.7	15.1	14.7	15.3	1.88	1.04	1.08	1.3	1.42	1.53	1.44	1.27	1.74	1.1	
RA-MW-15B	13.9	14.4	15.4	14.7	14.1	14.0	14.5	17.2	14.1	14.8	0.47	0.86	0.68	0.64	0.91	0.92	0.8	0.46	1.60	1.16	
B87-8	14.5	14.7	15.8	15.2	14.7	14.4	14.5	14.4	13.8	14.4	0.26	0.55	0.36	0.29	0.24	0.38	0.27	0.36	0.44	0.39	
B85-3	14.6	14.8	15.2	15.8	14.4	14.1	13.6	14.6	12.4	12.5	0.99	0.90	0.98	0.81	0.54	0.74	0.64	0.72	0.97	0.84	
W92-16A	14.2	15.6	16.1	15.3	14.0	13.8	14.1	15.5	13.6	13.3	0.33	0.25	0.27	0.23	0.24	0.28	0.28	0.37	0.47	0.57	
W92-16B	14.1	14.7	16.2	15.2	13.7	13.7	13.8	15.4	13.1	13.3	1.17	1.37	0.95	0.66	0.09	0.34	0.42	0.32	0.61	0.57	
B85-4	14.1	14.4	15.1	14.4	13.9	13.5	14.3	14.5	13.8	14.6	0.41	1.17	0.51	0.71	0.28	0.74	0.33	0.56	0.92	739	
W97-18A	11.3	11.0	15.0	12.7	13.9	12.0	--	13.8	13.0	11.6	0.11	0.09	0.11	0.08	0.1	0.19	--	0.15	0.16	0.16	
W97-18B	11.4	12.4	14.4	13.5	13.0	10.7	--	13.8	12.6	12.0	0.26	0.24	0.27	0.22	0.19	0.19	--	0.19	0.28	0.23	
W85-7A	11.4	12.6	14.9	13.9	14.5	12.3	13.7	15.9	13.4	12.7	0.13	0.14	0.21	0.12	0.11	0.1	0.16	0.16	0.13	219	
W85-7B	12.1	13.0	14.5	13.6	14.1	12.8	13.4	14.4	13.0	13.0	0.28	0.31	0.32	0.01	0.01	0.01	0.02	0.01	0.03	0.01	
W97-19A	12.5	13.3	16	14.3	13.8	12.9	--	15.3	13.9	13.8	0.25	0.26	0.28	0.23	0.23	0.19	--	0.21	0.26	0.24	
W97-19B	12.7	13.3	15.9	15.3	13.3	12.4	--	15.2	13.0	14.2	0.26	0.26	0.29	0.22	0.06	0.19	--	0.2	0.28	0.23	
W98-20A	13.8	12.5	15.4	14.3	14.3	13.1	--	15.3	14.0	13.1	0.16	0.15	0.23	0.12	0.12	0.13	--	0.18	0.25	0.18	
W99-R5A	14.2	14.9	15.7	14.8	14.8	14.7	15.1	--	13.9	13.9	0.24	0.25	0.24	0.22	0.21	0.2	0.2	--	0.27	0.22	
W99-R5B	13.9	14.4	15.6	14.4	14.5	13.9	14.7	--	13.5	13.5	0.26	0.26	0.27	0.23	0.22	0.22	0.22	--	0.28	0.24	
W98-21A	13.1	14.3	14.2	13.8	13.9	13.8	13.7	15.0	13.7	13.7	0.16	0.23	0.29	0.45	0.19	0.19	0.22	0.25	0.29	0.29	
W98-21B	13.1	13.6	14	13.8	13.7	13.0	13.7	14.7	13.4	13.5	0.24	0.27	0.27	0.25	0.18	0.22	0.21	0.24	0.32	0.31	
W85-6A	14.1	14.1	15.5	14				13.7	15.3	13.9	13.2	0.11	0.33	0.34	299			0.23	0.24	0.36	
W85-6B	13.6	13.8	16.3	13.7				13.8	15.1	13.1	13.1	0.31	0.41	0.33	0.26			0.1	0.11	0.17	0.24

Table 3—Comparison of Conventional Parameters (continued)

Well #	DO (mg/L)										pH										
	Feb-04	Apr-04	Aug-04	May-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Feb-04	Apr-04	Aug-04	May-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	
RA-MW-12A	0.24	0.09	0.2	0.13	0.04	0	52.7*	17*	56.41*	0	8.86	8.73	8.86	8.98	8.41	8.19	8.46	8.54	7.59	7.86	
RA-MW-12B	0.27	0.07	0.27	0.07	0.05	1.26	45.1*	12.16	73.22*	0	7.77	7.83	7.92	8.3	8.68	8.16	7.76	7.83	8.06	7.94	
RA-MW-12C	0.2	0.14	0.42	0.25	0.07	1.1	5.16	4.93	3.33	0.01	8.13	7.92	8.09	7.95	8.14	7.89	7.92	7.9	7.74	7.8	
RA-MW-11A	0.32	0.10	0.66	6.69	0.16	0	24.2*	22.5*	1.8	0	7.51	7.53	7	6.52	6.64	6.64	6.46	6.48	6.43	6.69	
RA-MW-11B	0.19	0.15	0.5	0.14	0.1	0.19	26.6*	4.44	2.5	0	7.66	7.9	7.2	6.7	6.73	7	6.69	6.85	6.86	7.01	
RA-MW-13A	1.63	0.17	1.13	0.53	0.11	0.38	0.27	1	0	0.04	7.15	7.15	7.03	6.7	6.86	6.82	6.82	6.96	7.02	7.08	
RA-MW-13B	0.73	0.16	0.73	0.51	0.21	0.45	0.35	0.49	0	0.09	7.23	7.56	7.3	6.86	6.99	7.15	6.95	7.52	7.04	7.06	
RA-MW-13C	0.22	0.15	0.43	1.4	2.98	0.96	0.41	0.8	0	0.06	7.36	7.35	7.44	7.33	7.48	7.25	7.25	7.45	7.45	7.44	
RA-MW-17A	0.6	0.19	1.99	0.6	0.2	3.69	--	0.74	0.35	0.11	6.55	6.43	6.61	6.2	6.39	6.5	--	6.42	6.66	6.59	
RA-MW-14A	0.89	0.22	5.96	0.51	0.22	6.74	--	0.88	1.75	0.6	6.64	6.81	6.99	6.5	6.6	6.6	--	5.98	6.76	6.65	
RA-MW-14B	1.08	0.10	2.77	0.42	0.12	2.58	--	0.52	1.73	0.9	6.9	7.14	7.33	6.75	6.78	6.87	--	6.4	6.98	6.82	
RA-MW-16A	0.73	0.27	1.39	1.6	0.11	5.4	0.54	0.49	0.31	0.05	6.61	6.61	6.75	6.42	6.44	6.62	6.44	5.96	6.68	6.71	
RA-MW-16B	0.75	0.15	0.86	0.75	0.33	1.85	0.27	0.27	0.21	0.05	6.42	7.12	7.09	6.31	7.12	7.06	6.85	6.09	6.62	6.78	
RA-MW-15A	0.33	0.21	1.53	0.47	0.15	8.34	0.47	2.89	0.29	0.04	6.35	6.37	6.74	6.2	6.3	6.47	6.28	6.09	6.53	6.61	
RA-MW-15B	0.22	0.10	0.74	0.44	0.18	0.79	0.3	1.25	0.30	0.06	6.35	6.83	7.18	6.39	6.39	6.51	6.26	6.61	6.39	6.48	
B87-8	0.13	1.03	1.06	0.35	0.28	0.53	0.37	0.52	0.25	0.01	6.55	6.31	6.73	6.54	6.68	6.57	6.35	6.61	6.71	6.71	
B85-3	1.11	0.16	1.57	4.5	0.12	2.97	0.22	1.04	0.80	0.02	6.49	6.68	6.91	6.39	6.7	6.64	6.42	6.33	6.73	6.68	
W92-16A	0.98	0.13	2.49	3.1	0.28	0.15	0.45	0.32	0.33	0.13	6.42	6.42	6.72	6.6	6.56	6.6	6.67	5.87	6.59	6.52	
W92-16B	0.14	0.53	1.97	3.4	5.4	1.02	0.54	2.12	0.23	0.8	7.51	7.58	7.63	7.59	6.88	7.54	7.38	6.35	7.46	7.62	
B85-4	0.65	1.37	1.5	0.33	0.2	0.22	0.52	1.61	0.30	0.03	6.14	6.26	6.53	6.22	6.51	6.49	6.21	6.28	6.47	6.53	
W97-18A	1.27	0.74	1.09	0.5	1.1	4	--	1.45	0.90	0.90	5.83	5.96	6.19	6.17	6.78	6.57	--	5.08	6.29	6.32	
W97-18B	2.01	5.56	4.52	4.9	2	1.17	--	4.25	4.59	1.09	6.57	6.35	6.67	6.41	6.6	6.16	--	6.25	6.55	6.61	
W85-7A	4.05	3.17	2.18	4.3	2.2	6.7	5.89	3.09	2.39	0.18	6.24	6.04	6.26	6.2	6.3	6.35	6.24	5.69	6.45	6.33	
W85-7B	2.78	5.11	6.1	8.7	4	10.3	10.96	3.77	0.06	0.1	6.63	6.51	6.71	5.91	6.18	6.14	6.37	5.39	6.57	6.23	
W97-19A	4.72	1.79	22.73	4.6	0.97	3.51	--	3.5	9.37	1	6.35	6.24	6.28	6.35	6.59	6.41	--	5.53	6.55	6.58	
W97-19B	1.81	1.31	2.6	2.6	1.1	2.99	--	3.43	4.13	0.52	6.68	6.49	6.3	6.47	6.68	6.68	--	5.89	6.83	6.76	
W98-20A	4.92	3.76	5.5	5	3.2	5.1	--	3.63	9.14	5.7	6.01	5.91	6.32	5.97	6.29	6.18	--	4.9	6.26	6.41	
W99-R5A	4.72	4.26	5.6	5.3	3.3	1.83	5.1	--	6.26	4.90	6.03	5.98	6.28	6.21	6.22	6.28	6.23	--	6.40	6.30	
W99-R5B	3.97	2.71	4.7	5.1	1.9	2.03	4.2	--	4.90	3.40	6.2	6.23	6.55	6.33	6.63	6.55	6.26	--	6.62	6.63	
W98-21A	1.29	1.49	3.03	13.3	1.2	1.05	3.26	2.59	4.97	0.07	5.92	6.07	6.68	6.18	6.3	6.25	6.11	4.8	6.16	6.43	
W98-21B	1.24	3.29	2.82	17.7	3.9	1.08	3.37	2.42	4.90	0.02	6.04	6.07	6.9	6.24	6.64	6.36	6.07	5.55	6.38	6.39	
W85-6A	4.92	0.43	0.85	4.9				1.86	2.06	2.63	0.09	6.23	6.22	6.4	6.36		6.25	5.47	6.63	6.47	
W85-6B	3.46	6.13	6.54	5.5				7.87	3.83	5.15	0.05	6.4	6.42	6.68	6.62			8.93	7.16	8.05	6.83

*: Denotes sulfur/sulfate interference with dissolved oxygen readings.

Table 3—Comparison of Conventional Parameters (continued)

Well #	ORP (mV)									
	Feb-04	Apr-04	Aug-04	May-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
RA-MW-12A	-468	-466	-430	-417	-403	-393	-363	-311	-373	-324
RA-MW-12B	-363	-321	-315	-415	-414	-345	-327	-355	-374	-313
RA-MW-12C	-282	-179	-154	-239	-314	-234	-191	-164	-217	-137
RA-MW-11A	-384	-391	-316	-110	-241	-246	-216	-294	-671	-260
RA-MW-11B	-394	-393	-332	-296	-289	-301	-278	-317	-303	-261
RA-MW-13A	-155	-102	-97	-94	-204	-176	-93	-153	-121	-125
RA-MW-13B	-129	-123	-104	-105	-125	-197	-85	-152	-125	-144
RA-MW-13C	-136	-126	-116	-142	-33	-175	-112	-135	-137	-133
RA-MW-17A	-91	-40	-7	-5	-27	-89	--	-106	-34	-128
RA-MW-14A	-77	-41	-54	-75	-82	-136	--	-80	-64	-104
RA-MW-14B	-112	-95	-102	-112	-134	-133	--	-98	-144	-141
RA-MW-16A	-94	-45	-58	-156	-103	-160	-93	-125	-125	-112
RA-MW-16B	-57	-70	-60	-85	-130	-131	-66	-155	-113	-88
RA-MW-15A	-47	4	39	10	-12	-137	-28	-52	-24	13
RA-MW-15B	-5	28	15	17	-11	16	34	76	32	48
B87-8	-8	31	17	199	2	73	86	160	167	170
B85-3	-7	-107	-37	-47	-93	-62	-43	-53	-59	-43
W92-16A	1	-14	30	110	110	-32	61	129	127	76
W92-16B	-116	-61	-60	73	119	-103	30	253	113	71
B85-4	10	41	59	218	-26	75	86	179	161	182
W97-18A	32	57	67	103	58	137	--	317	192	119
W97-18B	57	63	60	188	83	152	--	233	187	123
W85-7A	68	83	57	197	116	113	127	246	131	186
W85-7B	59	73	66	215	132	146	167	259	141	187
W97-19A	71	94	72	218	69	149	--	311	96	71
W97-19B	56	86	56	52	76	142	--	295	88	74
W98-20A	52	116	84	219	116	171	--	366	143	91
W99-R5A	58	96	97	153	123	197	116	--	131	100
W99-R5B	58	78	74	201	92	204	111	--	122	92
W98-21A	28	69	79	182	113	160	114	484	157	-55
W98-21B	33	72	47	202	121	161	117	471	148	111
W85-6A	17	57	86	163	--	--	107	356	123	172
W85-6B	19	76	72	159	--	--	79	340	70	164

Table 3—Comparison of Conventional Parameters (continued)

Well #	Sulfur (mg/L)										Sulfate (mg/L)									
	Feb-04	Apr-04	Aug-04	May-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Feb-04	Apr-04	Aug-04	May-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
RA-MW-12A																				
RA-MW-12B																				
RA-MW-12C																				
RA-MW-11A	286	296	304	285	460	448	322	402	342	311	620	751	1040	736	1200	3040	993	1170	1120	954
RA-MW-11B																				
RA-MW-13A	743	246	324	372	363	310	213	111	207	107	1960	712	1056	985	971	1980	682	323	657	362
RA-MW-13B																				
RA-MW-13C																				
RA-MW-17A																				
RA-MW-14A	189	228	214	136	122	158	124	140	72	107	477	635	697	357	351	429	396	400	225	358
RA-MW-14B																				
RA-MW-16A																				
RA-MW-16B																				
RA-MW-15A																				
RA-MW-15B																				
B87-8	9	52	22	17	23	48	21	42	31	34	21	137	73	170	63	125	74	117	98	113
B85-3																				
W92-16A																				
W92-16B																				
B85-4	23	150	31	87	20	103	21	59	67	59	58	410	104	222	50	253	75	169	212	201
W97-18A																				
W97-18B																				
W85-7A	3	4	5	4	4	3	5	6	3	10	6	9	15	13	8	8	18	16	7	30
W85-7B																				
W97-19A																				
W97-19B																				
W98-20A																				
W99-R5A	5	6	4	5	6	7	6	5	5	5	12	12	13	15	13	15	18	14	14	16
W99-R5B																				
W98-21A						8	10									19	25			
W98-21B																				
W85-6A		15	14	18	--	--	12	15	7	26	5	36	44	44	--	--	35	41	21	85
W85-6B																				

Table 4—Frontier Hard Chrome—Event 10 Ground Water Elevations 1 April 2007

Well No.	Time	Casing Elevation (feet)	Depth to Water (feet)	Water level Elevation (AMSL)
W85-3A	1136	26.40	16.56	9.84
W85-3B	1139	26.77	16.91	9.86
W97-18A	1205	25.44	15.48	9.96
W97-18B	1209	25.36	15.43	9.93
B85-4	1201	25.38	15.45	9.93
B87-8	1156	25.95	16.05	9.90
W92-16B	1149	25.51	15.62	9.89
W92-16A	1146	25.62	15.72	9.90
B85-3	1143	24.90	15.05	9.85
W85-7A	--	22.83	--	--
W85-7B	--	23.00	--	--
W97-19A	1248	22.45	12.57	9.88
W97-19B	1252	21.72	11.89	9.83
W98-20A	1239	23.57	13.62	9.95
W85-6A	1217	25.87	15.88	9.99
W85-6B	1223	26.13	16.19	9.94
W98-21B	1231	25.50	15.51	9.99
W98-21A	1229	25.28	15.29	9.99
W99-R5A	1300	32.26	22.31	9.95
W99-R5B	1304	32.33	22.38	9.95
USGS 14144700 (Stage height of the Columbia River corrected to NGVD 1929)				10.02

¹Two different elevation datum's have been used at Frontier Hard Chrome. Weston (12/03) Long-Term Monitoring plan has applied a correction factor (+3.76 feet) using the City of Vancouver's benchmark #108 located near FHC site.

-- Could not measure water level elevation; water had no conductivity to activate electronic water probe.

Table 5—Quality Assurance Sample Results - Chromium

Well #	Sample Type	Original Sample Chromium Concentration (mg/L)	Duplicate Sample Chromium Concentration (mg/L)	Relative Percent Difference
B87-8 (total)	Field Duplicate	20.2	20.2	0%
RA-MW-15B (filtered)	Field Duplicate	9.2	10.0	8%

Table 6—Frontier Hard Chrome—Event 10 VOC Results

Well Number	Concentration (ug/L)		
	Tetrachloroethene	Trichloroethene	Vinyl Chloride
RA-MW-12A	1U	1U	1U
RA-MW-12B	1U	1.3	1U
RA-MW-12C	--		
RA-MW-11A	--		
RA-MW-11B	--		
RA-MW-13A	--		
RA-MW-13B	--		
RA-MW-13C	--		
RA-MW-17A	--		
RA-MW-14A	--		
RA-MW-14B	--		
RA-MW-16A	--		
RA-MW-16B	--		
RA-MW-15A	--		
RA-MW-15B	--		
B87-8	1U	1U	1U
B85-3	--		
W92-16A	--		
W85-3A	23	0.53	1U
W85-3B	3.5	1U	1U
W92-16B	--		
B85-4	1U	1U	1U
W97-18A	--		
W97-18B	--		
W85-7A	1.2	1U	1U
W85-7B	1U	1U	1U
W97-19A	--		
W97-19B	--		
W98-20A	--		
W99-R5A	--		
W99-R5B	--		
W98-21A	--		
W98-21B	--		
W85-6A	0.59	1U	1U
W85-6B	3.3	1U	1U

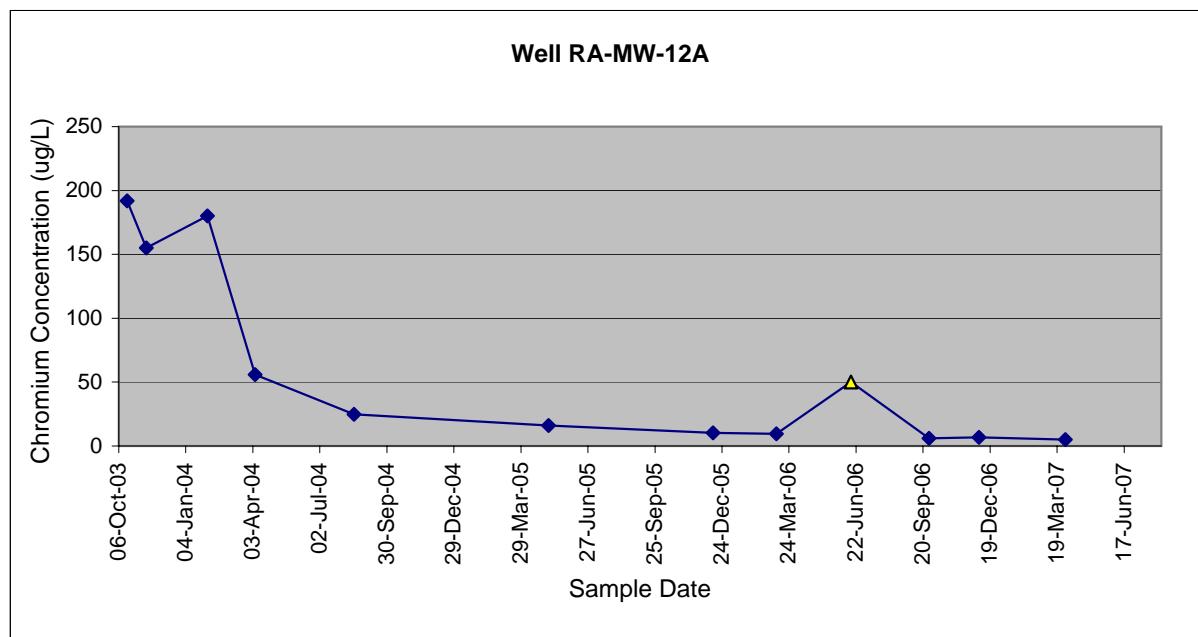
--: denotes no sample collected.

U: denotes analyte not detected.

APPENDIX A
GROUNDWATER CHROMIUM CONCENTRATION TRENDS

Well RA-MW-12A

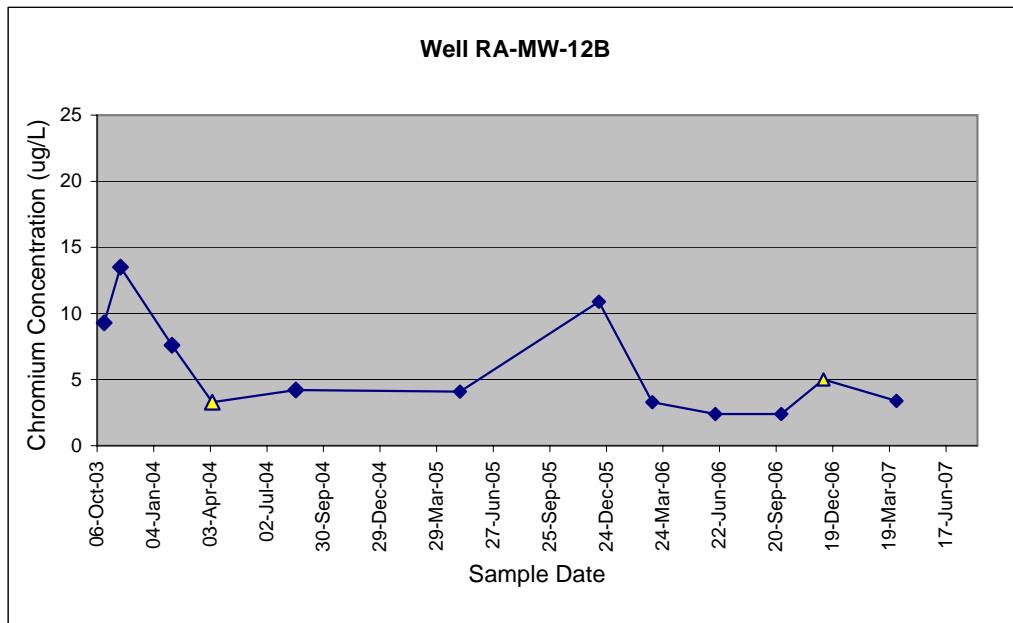
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2524	Water	17-Oct-03	CHROMIUM	192	UG/L		RA-MW-12A	Dissolved	>10
MJ27F5	Water	12-Nov-03	CHROMIUM	155	UG/L		RA-MW-12A	Dissolved	>10
MJ2AF0	Water	02-Feb-04	CHROMIUM	180	UG/L		RA-MW-12A	Total	7
MJ2BH9	Water	06-Apr-04	CHROMIUM	55.8	UG/L		RA-MW-12A	Dissolved	17
MJ4725	Water	17-Aug-04	CHROMIUM	24.9	UG/L		RA-MW-12A	Dissolved	12
184253	Water	5-May-05	CHROMIUM	16	UG/L		RA-MW-12A	Dissolved	32
05504282	Water	12-Dec-05	CHROMIUM	10.2	UG/L		RA-MW-12A	Dissolved	86
104243	Water	7-Mar-06	CHROMIUM	9.6	UG/L		RA-MW-12A	Dissolved	60
244313	Water	15-Jun-06	CHROMIUM	50	UG/L	U	RA-MW-12A	Dissolved	47
394218	Water	28-Sep-06	CHROMIUM	6	UG/L		RA-MW-12A	Dissolved	80
494110	Water	4-Dec-06	CHROMIUM	6.8	UG/L		RA-MW-12A	Dissolved	12
134255	Water	30-Mar-07	CHROMIUM	5	UG/L		RA-MW-12A	Dissolved	85



Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

Well RA-MW-12B

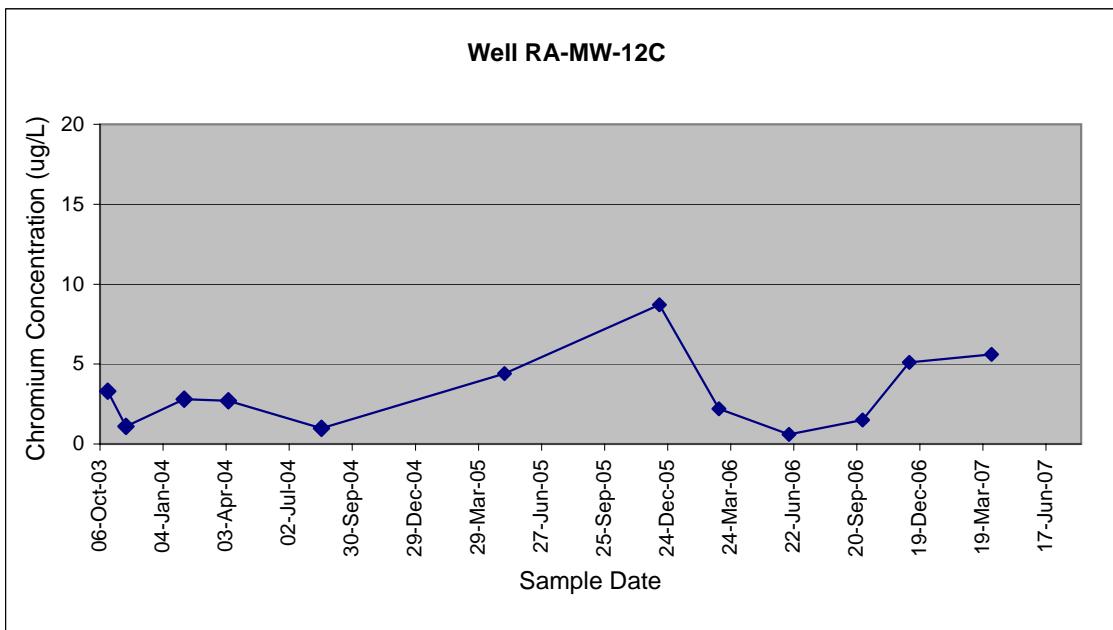
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2526	Water	17-Oct-03	CHROMIUM	9.3	UG/L	BJ	RA-MW-12B	Dissolved	>10
MJ27F7	Water	12-Nov-03	CHROMIUM	13.5	UG/L		RA-MW-12B	Dissolved	>10
MJ2AF1	Water	02-Feb-04	CHROMIUM	7.6	UG/L	J	RA-MW-12B	Total	6
MJ2BJ0	Water	06-Apr-04	CHROMIUM	3.3	UG/L	U	RA-MW-12B	Total	0
MJ4726	Water	17-Aug-04	CHROMIUM	4.2	UG/L	J	RA-MW-12B	Total	2
184254	Water	5-May-05	CHROMIUM	4.1	UG/L		RA-MW-12B	Total	4.5
05504283	Water	12-Dec-05	CHROMIUM	10.9	UG/L		RA-MW-12B	Total	8
104242	Water	7-Mar-06	CHROMIUM	3.3	UG/L		RA-MW-12B	Total	1.7
244315	Water	15-Jun-06	CHROMIUM	2.4	UG/L		RA-MW-12B	Total	14
394216	Water	28-Sep-06	CHROMIUM	2.4	UG/L		RA-MW-12B	Total	1
494108	Water	4-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-12B	Total	2
134253	Water	30-Mar-07	CHROMIUM	3.4	UG/L		RA-MW-12B	Total	2.2



Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

Well RA-MW-12C

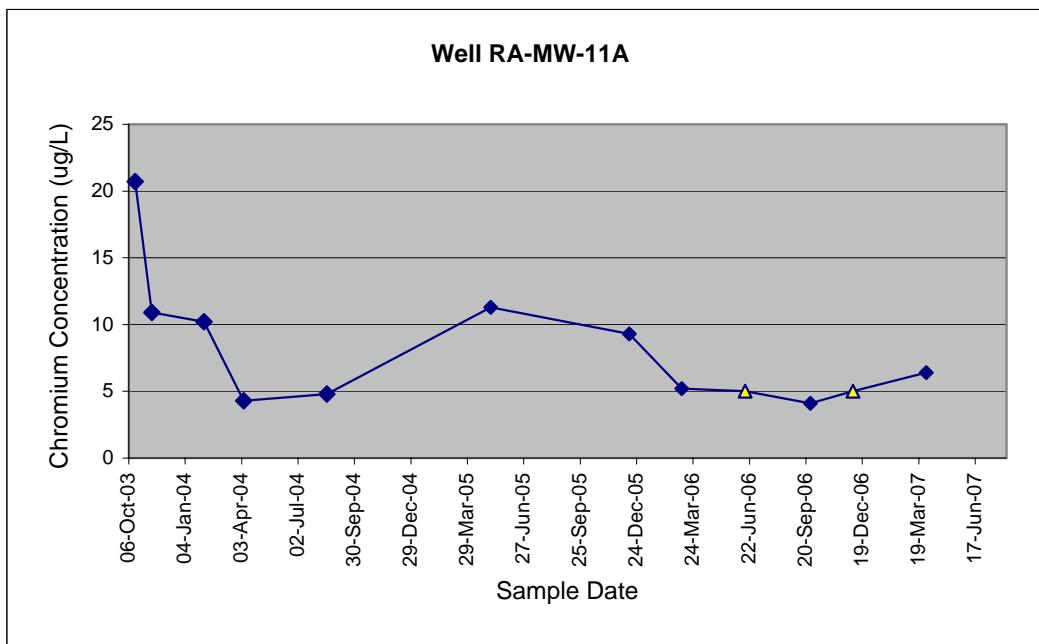
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2528	Water	17-Oct-03	CHROMIUM	3.3	UG/L	BJ	RA-MW-12C	Dissolved	>10
MJ27F9	Water	12-Nov-03	CHROMIUM	1.1	UG/L	BJ	RA-MW-12C	Dissolved	>10
MJ2AF2	Water	03-Feb-04	CHROMIUM	2.8	UG/L	J	RA-MW-12C	Total	1
MJ2BJ1	Water	06-Apr-04	CHROMIUM	2.7	UG/L	J	RA-MW-12C	Total	0
MJ4727	Water	17-Aug-04	CHROMIUM	0.98	UG/L	J	RA-MW-12C	Total	2
184255	Water	5-May-05	CHROMIUM	4.4	UG/L		RA-MW-12C	Total	5.2
05504284	Water	12-Dec-05	CHROMIUM	8.7	UG/L		RA-MW-12C	Total	3
104245	Water	7-Mar-06	CHROMIUM	2.2	UG/L		RA-MW-12C	Total	1
244317	Water	15-Jun-06	CHROMIUM	0.6	UG/L	J	RA-MW-12C	Total	0.3
394215	Water	28-Sep-06	CHROMIUM	1.5	UG/L		RA-MW-12C	Total	0.4
494117	Water	4-Dec-06	CHROMIUM	5.1	UG/L		RA-MW-12C	Total	3
134256	Water	31-Mar-07	CHROMIUM	5.6	UG/L		RA-MW-12C	Total	3.4



Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

Well RA-MW-11A

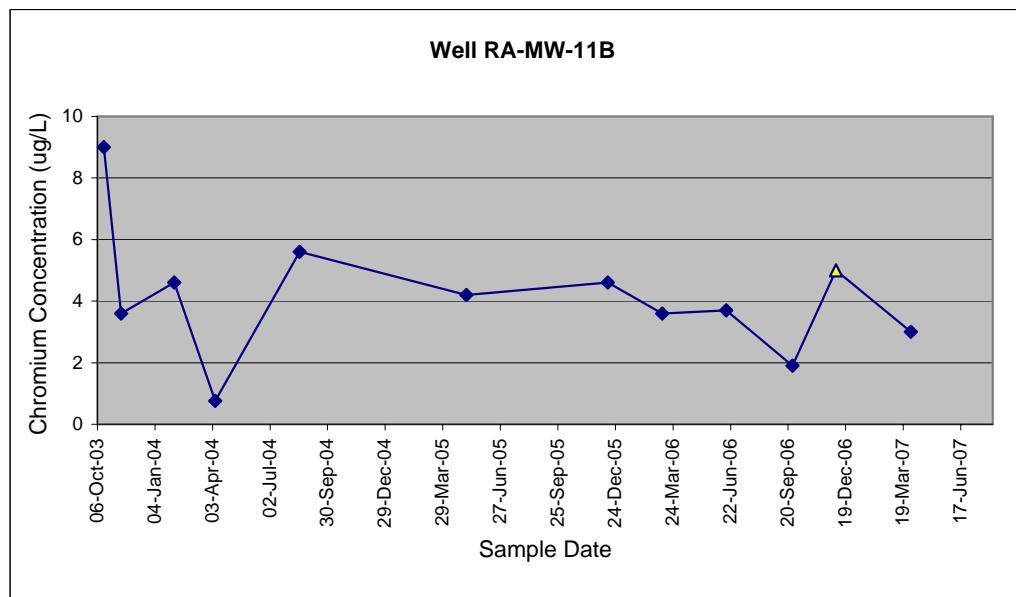
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2516	Water	16-Oct-03	CHROMIUM	20.7	UG/L		RA-MW-11A	Dissolved	>10
MJ27G1	Water	12-Nov-03	CHROMIUM	10.9	UG/L	J	RA-MW-11A	Dissolved	>10
MJ2AF4	Water	03-Feb-04	CHROMIUM	10.2	UG/L		RA-MW-11A	Dissolved	800
MJ2BJ3	Water	06-Apr-04	CHROMIUM	4.3	UG/L	J	RA-MW-11A	Dissolved	783
MJ4728	Water	17-Aug-04	CHROMIUM	4.8	UG/L	J	RA-MW-11A	Total	<10
184250	Water	5-May-05	CHROMIUM	11.3	UG/L		RA-MW-11A	Total	2
05504280	Water	12-Dec-05	CHROMIUM	9.3	UG/L		RA-MW-11A	Total	4
104232	Water	6-Mar-06	CHROMIUM	5.2	UG/L		RA-MW-11A	Total	1
244318	Water	15-Jun-06	CHROMIUM	5	UG/L	UJ	RA-MW-11A	Total	2
394213	Water	27-Sep-06	CHROMIUM	4.1	UG/L		RA-MW-11A	Total	0.5
494106	Water	4-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-11A	Total	1
134257	Water	31-Mar-07	CHROMIUM	6.4	UG/L		RA-MW-11A	Dissolved	4.1



Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

Well RA-MW-11B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2518	Water	16-Oct-03	CHROMIUM	9	UG/L	BJ	RA-MW-11B	Dissolved	>10
MJ27G3	Water	12-Nov-03	CHROMIUM	3.6	UG/L	BJ	RA-MW-11B	Dissolved	>10
MJ2AF6	Water	03-Feb-04	CHROMIUM	4.6	UG/L	J	RA-MW-11B	Dissolved	550
MJ2BJ5	Water	7-Apr-04	CHROMIUM	0.76	UG/L	J	RA-MW-11B	Dissolved	1100
MJ4730	Water	17-Aug-04	CHROMIUM	5.6	UG/L	J	RA-MW-11B	Total	114
184251	Water	5-May-05	CHROMIUM	4.2	UG/L		RA-MW-11B	Total	7.1
05504281	Water	12-Dec-05	CHROMIUM	4.6	UG/L		RA-MW-11B	Dissolved	13
104241	Water	7-Mar-06	CHROMIUM	3.6	UG/L		RA-MW-11B	Total	5
244319	Water	15-Jun-06	CHROMIUM	3.7	UG/L		RA-MW-11B	Total	3
394214	Water	27-Sep-06	CHROMIUM	1.9	UG/L		RA-MW-11B	Total	0.3
494107	Water	4-Dec-06	CHROMIUM	5.0	UG/L	U	RA-MW-11B	Total	0.5
134260	Water	31-Mar-07	CHROMIUM	3.0	UG/L		RA-MW-11B	Dissolved	3.7

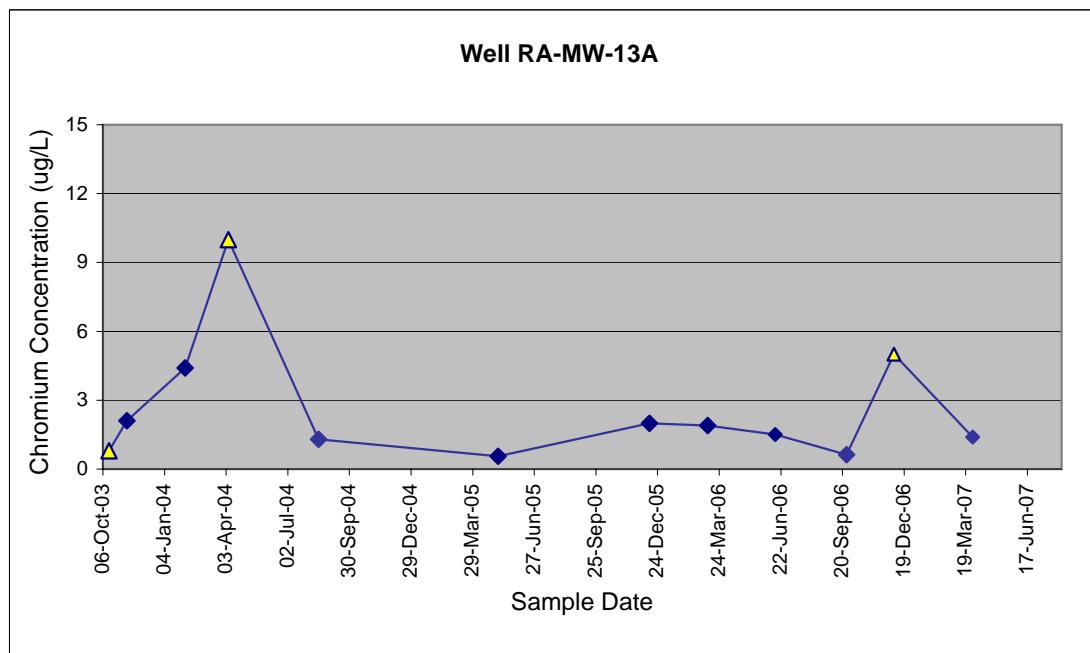


Note: The total Cr concentration was used for the August 2004 event because the dissolved concentration had a higher detection limit (10U).

Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

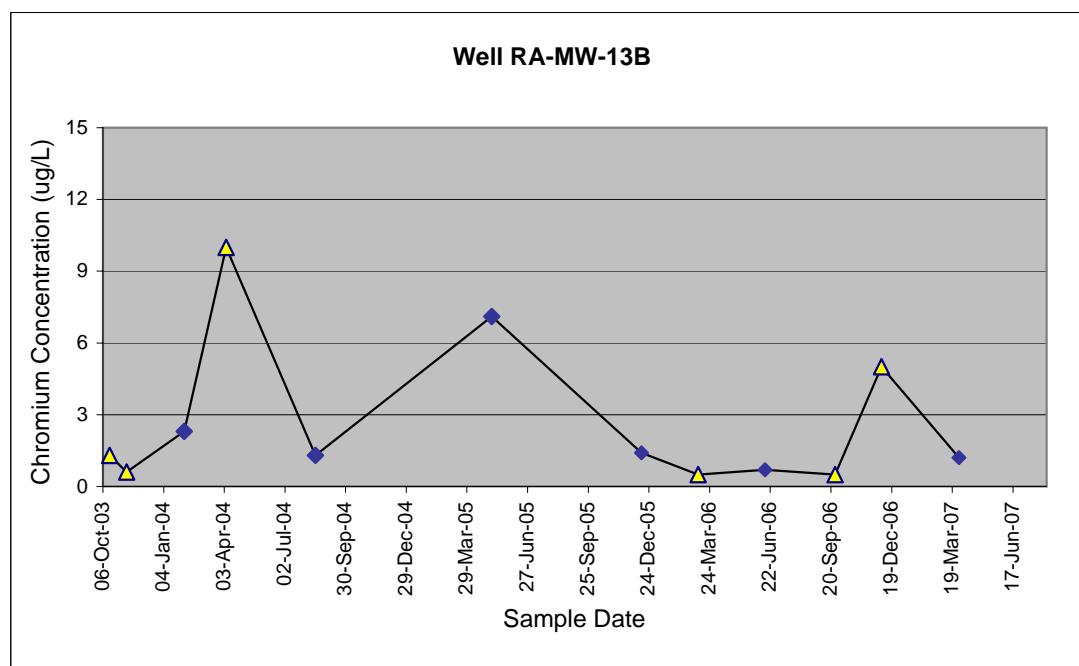
Well RA-MW-13A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2508	Water	15-Oct-03	CHROMIUM	0.8	UG/L	U	RA-MW-13A	Total	<10
MJ27E2	Water	10-Nov-03	CHROMIUM	2.1	UG/L	BJ	RA-MW-13A	Total	>10
MJ2AG1	Water	03-Feb-04	CHROMIUM	4.4	UG/L	J	RA-MW-13A	Total	4
MJ2BH4	Water	6-Apr-04	CHROMIUM	10	UG/L	U	RA-MW-13A	Total	7
MJ4718	Water	16-Aug-04	CHROMIUM	1.3	UG/L	J	RA-MW-13A	Total	9
184261	Water	5-May-05	CHROMIUM	0.56	UG/L		RA-MW-13A	Total	6.4
05504285	Water	12-Dec-05	CHROMIUM	2	UG/L		RA-MW-13A	Total	6.4
104246	Water	7-Mar-06	CHROMIUM	1.9	UG/L		RA-MW-13A	Total	4
244301	Water	14-Jun-06	CHROMIUM	1.5	UG/L		RA-MW-13A	Total	0.7
394194	Water	26-Sep-06	CHROMIUM	0.63	UG/L		RA-MW-13A	Total	2
494102	Water	4-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-13A	Total	0.3
134233	Water	29-Mar-07	CHROMIUM	1.4	UG/L		RA-MW-13A	Total	7.7



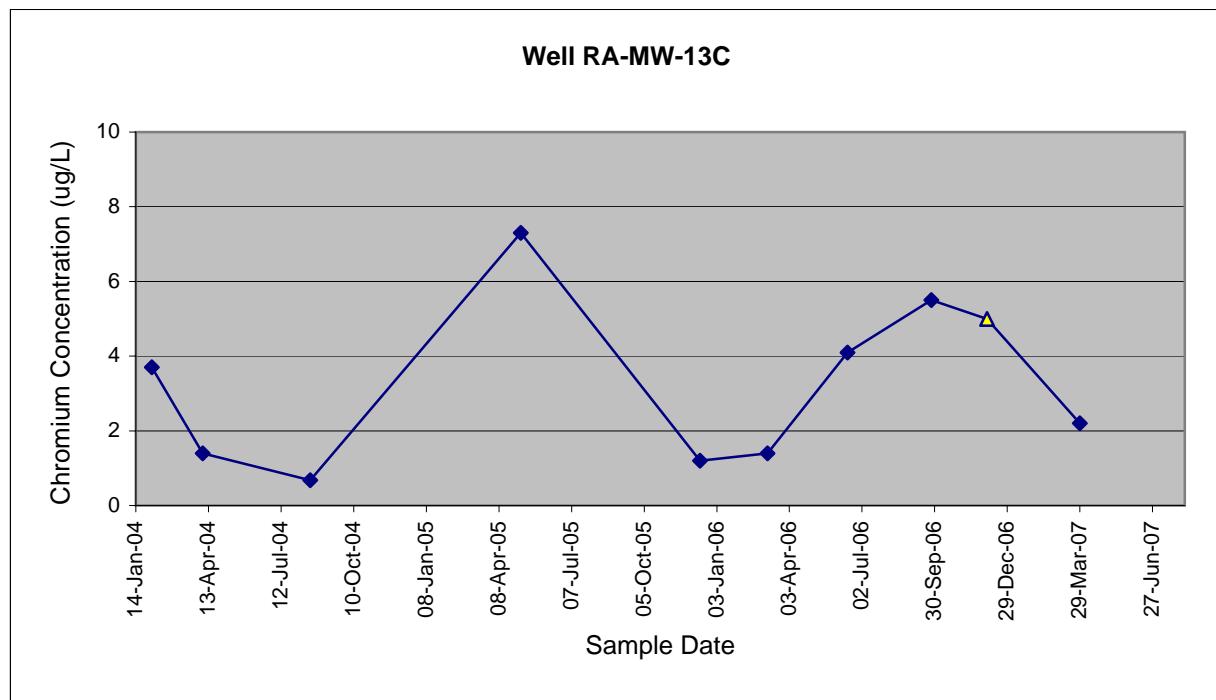
Well RA-MW-13B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2509	Water	16-Oct-03	CHROMIUM	1.3	UG/L	U	RA-MW-13B	Total	<10
MJ27E3	Water	10-Nov-03	CHROMIUM	0.6	UG/L	UJ	RA-MW-13B	Total	<10
MJ2AF8	Water	03-Feb-04	CHROMIUM	2.3	UG/L	J	RA-MW-13B	Total	3
MJ2BH5	Water	6-Apr-04	CHROMIUM	10	UG/L	U	RA-MW-13B	Total	1
MJ4720	Water	16-Aug-04	CHROMIUM	1.3	UG/L	J	RA-MW-13B	Total	2
184262	Water	5-May-05	CHROMIUM	7.1	UG/L		RA-MW-13B	Total	2.8
05504286	Water	13-Dec-05	CHROMIUM	1.4	UG/L		RA-MW-13B	Total	1.7
104247	Water	7-Mar-06	CHROMIUM	0.5	UG/L	U	RA-MW-13B	Total	0
244302	Water	14-Jun-06	CHROMIUM	0.7	UG/L		RA-MW-13B	Total	0.8
394195	Water	26-Sep-06	CHROMIUM	0.5	UG/L	U	RA-MW-13B	Total	2
494103	Water	4-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-13B	Total	0.5
134234	Water	29-Mar-07	CHROMIUM	1.2	UG/L		RA-MW-13B	Total	0.5



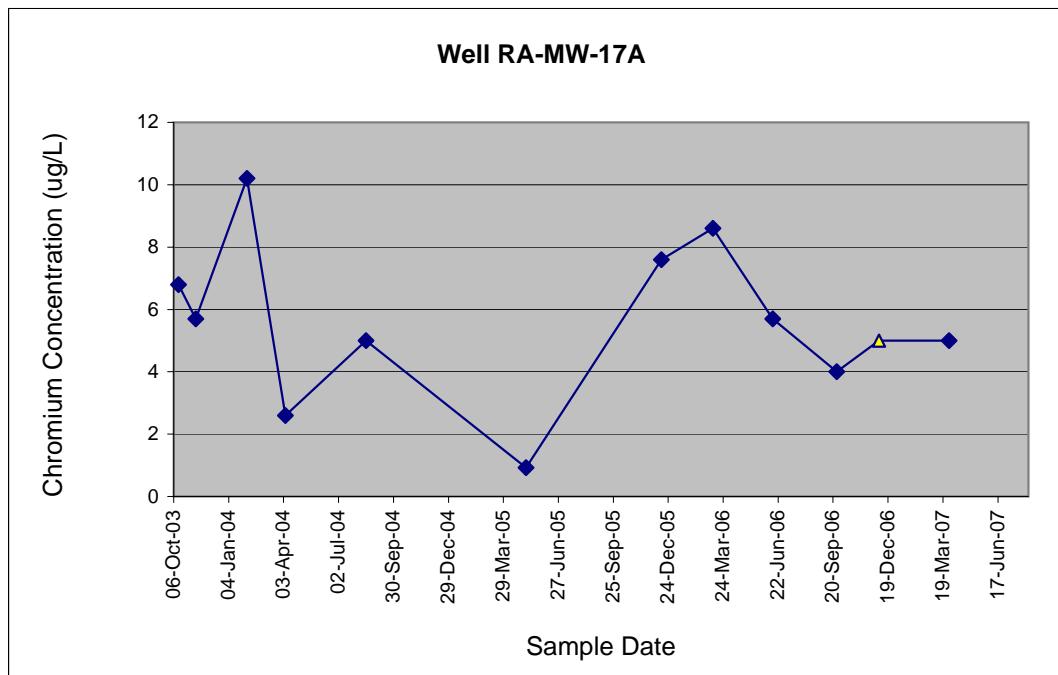
Well RA-MW-13C

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AF9	Water	03-Feb-04	CHROMIUM	3.7	UG/L	J	RA-MW-13C	Total	2
MJ2BH6	Water	6-Apr-04	CHROMIUM	1.4	UG/L	J	RA-MW-13C	Total	0
MJ4721	Water	17-Aug-04	CHROMIUM	0.68	UG/L	J	RA-MW-13C	Total	2
184263	Water	5-May-05	CHROMIUM	7.3	UG/L		RA-MW-13C	Total	9.8
05504287	Water	13-Dec-05	CHROMIUM	1.2	UG/L		RA-MW-13C	Total	0.1
104248	Water	7-Mar-06	CHROMIUM	1.4	UG/L		RA-MW-13C	Total	6
244303	Water	14-Jun-06	CHROMIUM	4.1	UG/L		RA-MW-13C	Total	5
394196	Water	26-Sep-06	CHROMIUM	5.5	UG/L		RA-MW-13C	Total	9.7
494104	Water	4-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-13C	Total	8
134235	Water	29-Mar-07	CHROMIUM	2.2	UG/L		RA-MW-13C	Total	3.5



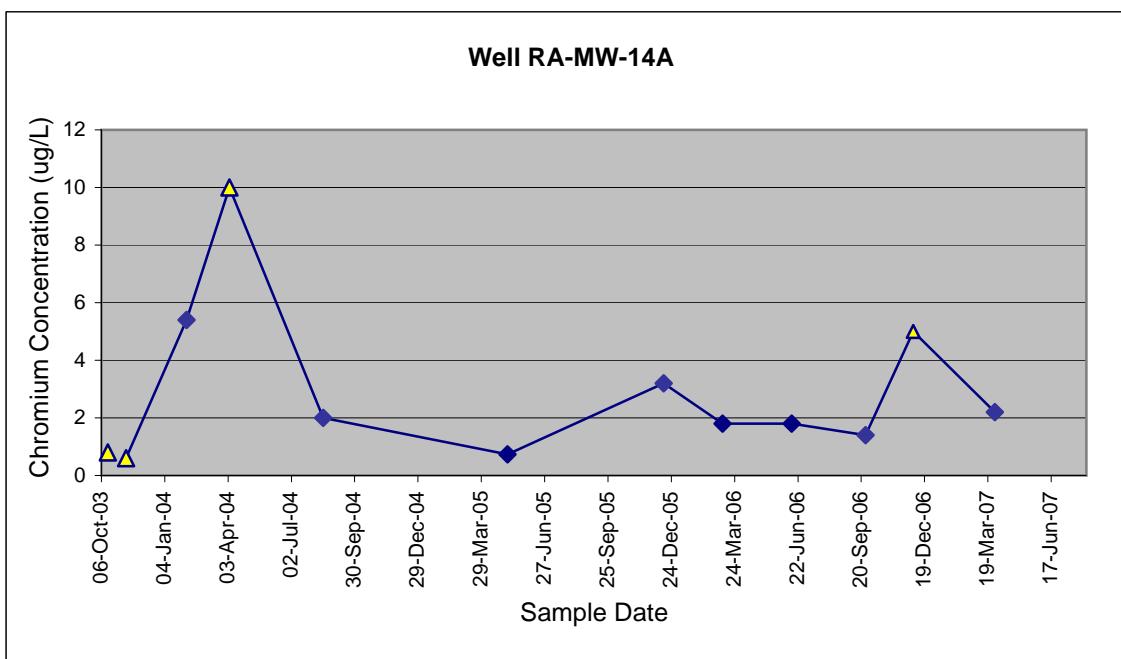
Well RA-MW-17A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2501	Water	14-Oct-03	CHROMIUM	6.8	UG/L	BJ	RA-MW-17A	Total	<10
MJ27E5	Water	11-Nov-03	CHROMIUM	5.7	UG/L	BJ	RA-MW-17A	Total	<10
MJ2AG0	Water	03-Feb-04	CHROMIUM	10.2	UG/L	J	RA-MW-17A	Total	1
MJ2BH7	Water	6-Apr-04	CHROMIUM	2.6	UG/L	J	RA-MW-17A	Total	0
MJ4715	Water	16-Aug-04	CHROMIUM	5	UG/L	J	RA-MW-17A	Total	1
184260	Water	5-May-05	CHROMIUM	0.92	UG/L		RA-MW-17A	Total	10
05504299	Water	13-Dec-05	CHROMIUM	7.6	UG/L		RA-MW-17A	Total	3.1
104240	Water	7-Mar-06	CHROMIUM	8.6	UG/L		RA-MW-17A	Total	7
244293	Water	13-Jun-06	CHROMIUM	5.7	UG/L		RA-MW-17A	Total	1
394193	Water	26-Sep-06	CHROMIUM	4.0	UG/L		RA-MW-17A	Total	1
494105	Water	4-Dec-06	CHROMIUM	5.0	UG/L	U	RA-MW-17A	Total	0.8
134232	Water	29-Mar-07	CHROMIUM	5.0	UG/L		RA-MW-17A	Total	1.2



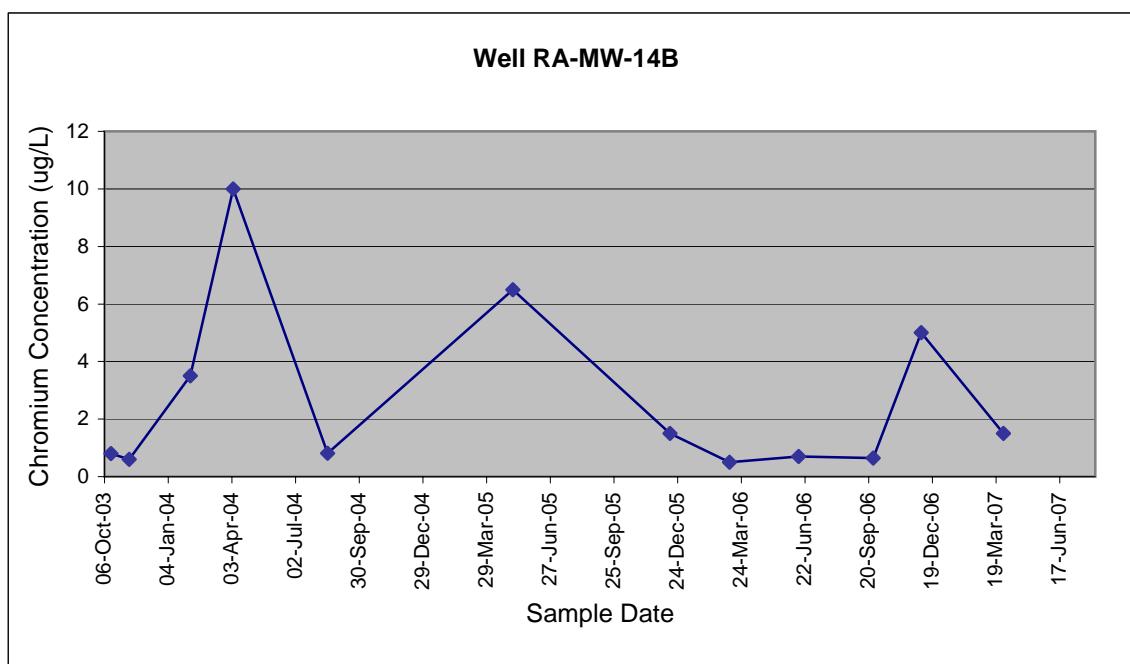
Well RA-MW-14A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2504	Water	15-Oct-03	CHROMIUM	0.8	UG/L	U	RA-MW-14A	Total	<10
MJ27D8	Water	10-Nov-03	CHROMIUM	0.6	UG/L	UJ	RA-MW-14A	Total	<10
MJ2AG2	Water	04-Feb-04	CHROMIUM	5.4	UG/L	J	RA-MW-14A	Total	0
MJ2BG5	Water	5-Apr-04	CHROMIUM	10	UG/L	U	RA-MW-14A	Total	5
MJ4712	Water	16-Aug-04	CHROMIUM	2	UG/L	J	RA-MW-14A	Total	3
184258	Water	5-May-05	CHROMIUM	0.73	UG/L		RA-MW-14A	Total	7.5
05504294	Water	13-Dec-05	CHROMIUM	3.2	UG/L		RA-MW-14A	Total	1.5
104250	Water	7-Mar-06	CHROMIUM	1.8	UG/L		RA-MW-14A	Total	1
244294	Water	13-Jun-06	CHROMIUM	1.8	UG/L		RA-MW-14A	Total	1
394198	Water	26-Sep-06	CHROMIUM	1.4	UG/L		RA-MW-14A	Total	0.3
494100	Water	3-Dec-06	CHROMIUM	5.0	UG/L	U	RA-MW-14A	Total	0.1
134230	Water	29-Mar-07	CHROMIUM	2.2	UG/L		RA-MW-14A	Total	0.5



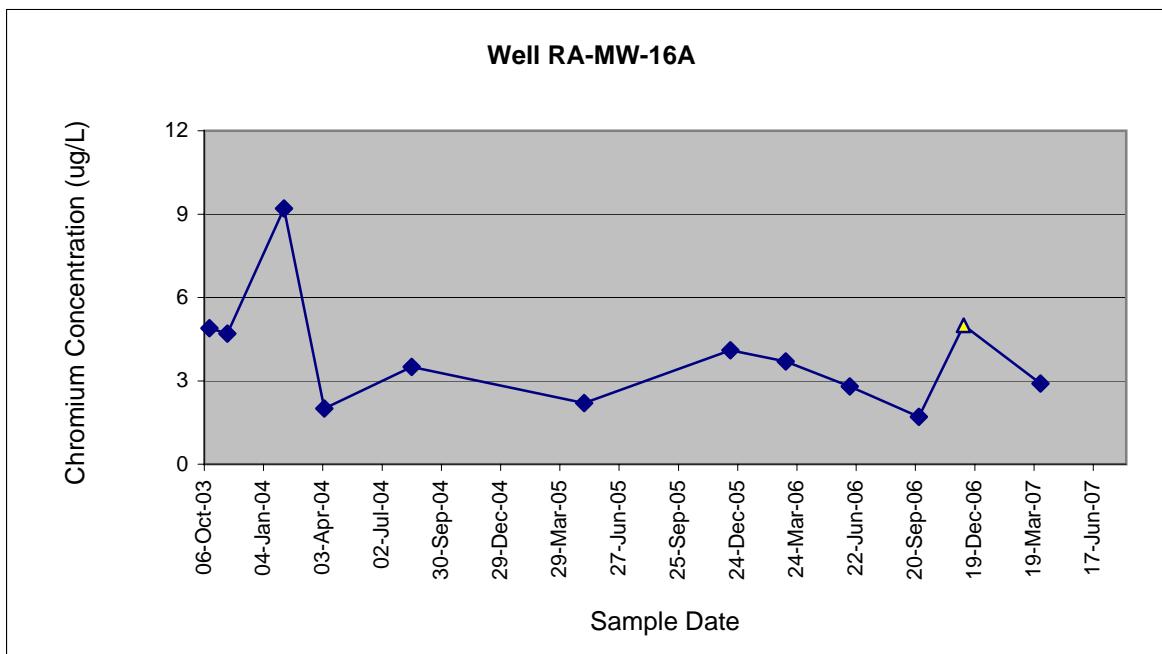
Well RA-MW-14B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2505	Water	15-Oct-03	CHROMIUM	0.8	UG/L	U	RA-MW-14B	Total	<10
MJ27D9	Water	10-Nov-03	CHROMIUM	0.6	UG/L	R	RA-MW-14B	Total	<10
MJ2AG4	Water	04-Feb-04	CHROMIUM	3.5	UG/L	J	RA-MW-14B	Total	1
MJ2BG7	Water	5-Apr-04	CHROMIUM	10	UG/L	U	RA-MW-14B	Total	0
MJ4714	Water	16-Aug-04	CHROMIUM	0.81	UG/L	J	RA-MW-14B	Total	2
184259	Water	5-May-05	CHROMIUM	6.5	UG/L		RA-MW-14B	Total	5.6
05504295	Water	13-Dec-05	CHROMIUM	1.5	UG/L		RA-MW-14B	Total	6.1
104249	Water	7-Mar-06	CHROMIUM	0.5	UG/L	U	RA-MW-14B	Total	4
244295	Water	13-Jun-06	CHROMIUM	0.7	UG/L		RA-MW-14B	Total	9
394199	Water	26-Sep-06	CHROMIUM	0.64	UG/L		RA-MW-14B	Total	2
494101	Water	3-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-14B	Total	0.2
134231	Water	29-Mar-07	CHROMIUM	1.5	UG/L		RA-MW-14B	Total	0.6



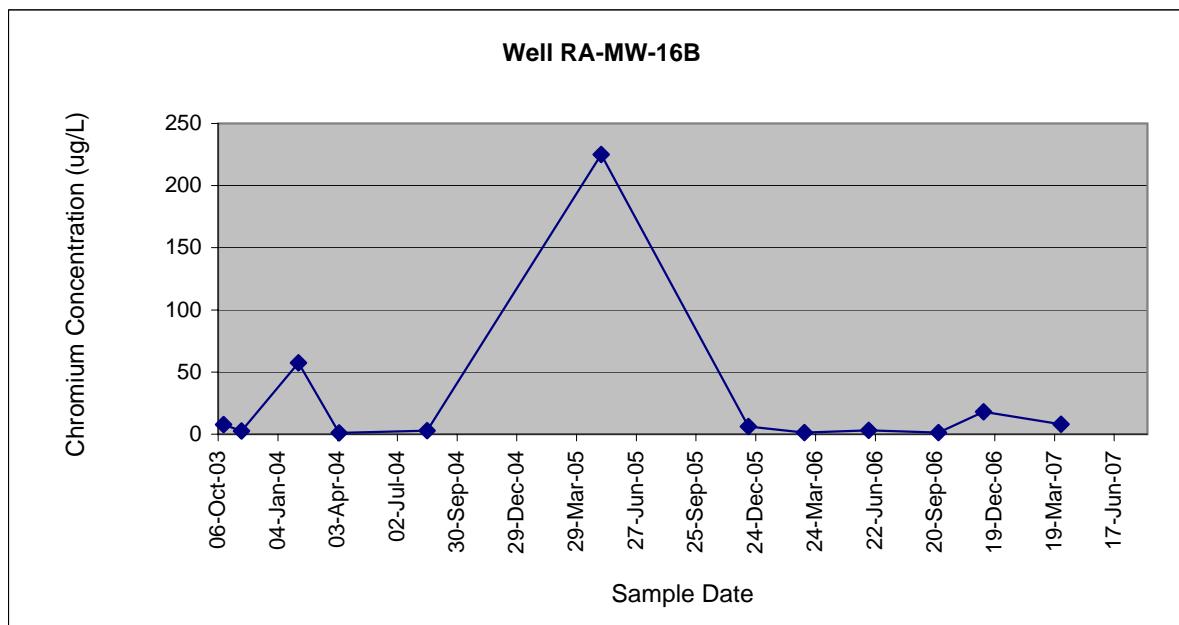
Well RA-MW-16A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2502	Water	14-Oct-03	CHROMIUM	4.9	UG/L	BJ	RA-MW-16A	Total	<10
MJ27E0	Water	10-Nov-03	CHROMIUM	4.7	UG/L	BJ	RA-MW-16A	Total	<10
MJ2AG5	Water	04-Feb-04	CHROMIUM	9.2	UG/L	J	RA-MW-16A	Total	1
MJ2BG8	Water	5-Apr-04	CHROMIUM	2	UG/L	J	RA-MW-16A	Total	1
MJ4716	Water	16-Aug-04	CHROMIUM	3.5	UG/L	J	RA-MW-16A	Total	2
184257	Water	5-May-05	CHROMIUM	2.2	UG/L		RA-MW-16A	Total	8.5
05504293	Water	13-Dec-05	CHROMIUM	4.1	UG/L		RA-MW-16A	Total	1.2
104238	Water	7-Mar-06	CHROMIUM	3.7	UG/L		RA-MW-16A	Total	1.7
244304	Water	12-Jun-06	CHROMIUM	2.8	UG/L		RA-MW-16A	Total	1
394189	Water	25-Sep-06	CHROMIUM	1.7	UG/L		RA-MW-16A	Total	1
494087	Water	2-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-16A	Total	0.1
134236	Water	29-Mar-07	CHROMIUM	2.9	UG/L		RA-MW-16A	Total	1.7



Well RA-MW-16B

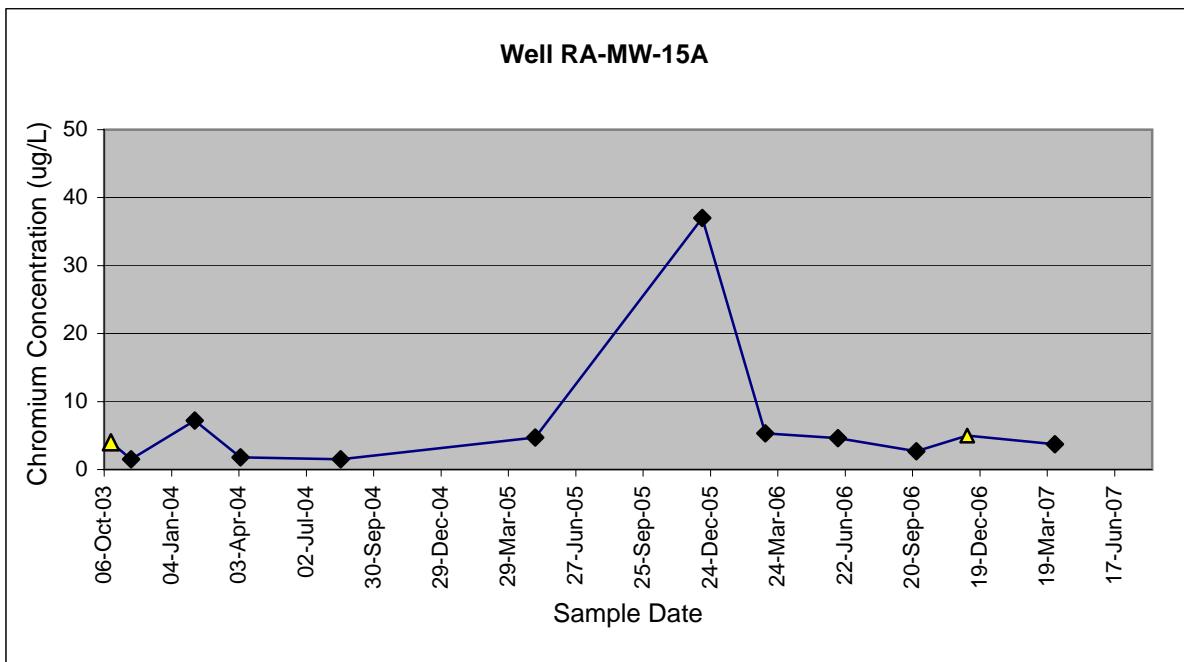
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2503	Water	14-Oct-03	CHROMIUM	7.6	UG/L	BJ	RA-MW-16B	Total	<10
MJ27E1	Water	10-Nov-03	CHROMIUM	2.5	UG/L	BJ	RA-MW-16B	Total	<10
MJ2AG6	Water	04-Feb-04	CHROMIUM	57.4	UG/L	BJ	RA-MW-16B	Total	1
MJ2BH0	Water	5-Apr-04	CHROMIUM	1	UG/L	J	RA-MW-16B	Dissolved	0
MJ4717	Water	16-Aug-04	CHROMIUM	2.8	UG/L	J	RA-MW-16B	Total	3.6
184256	Water	5-May-05	CHROMIUM	225	UG/L		RA-MW-16B	Total	5.7
05504291	Water	13-Dec-05	CHROMIUM	6.1	UG/L		RA-MW-16B	Dissolved	3.9
104239	Water	7-Mar-06	CHROMIUM	1.3	UG/L		RA-MW-16B	Total	0
244305	Water	12-Jun-06	CHROMIUM	3.2	UG/L		RA-MW-16B	Total	0.3
394187	Water	25-Sep-06	CHROMIUM	1.3	UG/L		RA-MW-16B	Dissolved	0.7
494089	Water	2-Dec-06	CHROMIUM	18	UG/L		RA-MW-16B	Dissolved	0.2
134238	Water	29-Mar-07	CHROMIUM	7.9	UG/L		RA-MW-16B	Dissolved	3.7



Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

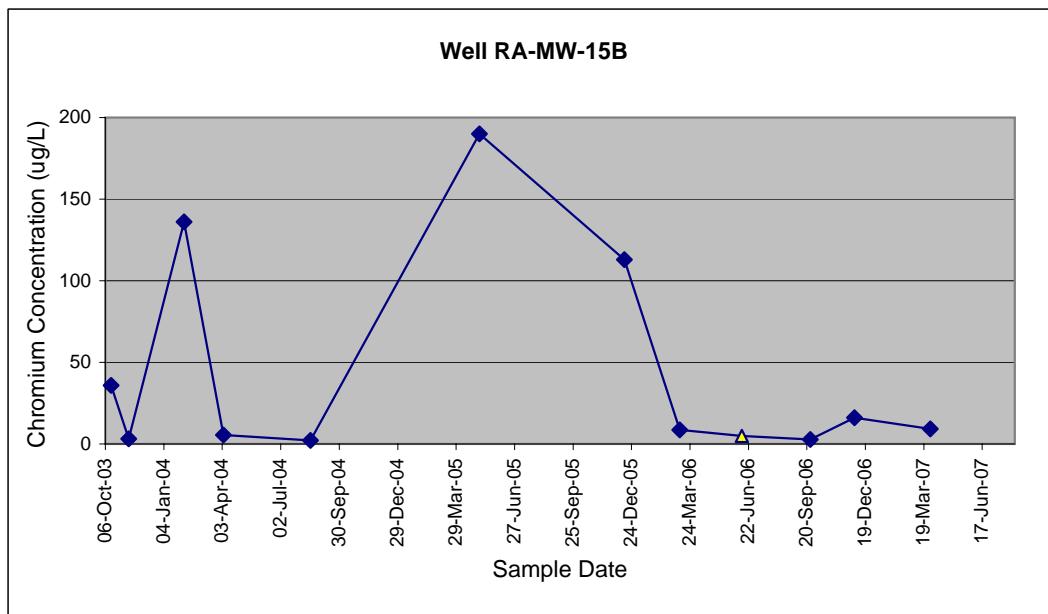
Well RA-MW-15A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2506	Water	15-Oct-03	CHROMIUM	4	UG/L	U	RA-MW-15A	Total	<10
MJ27E8	Water	11-Nov-03	CHROMIUM	1.5	UG/L	BJ	RA-MW-15A	Total	<10
MJ2AG7	Water	04-Feb-04	CHROMIUM	7.2	UG/L	J	RA-MW-15A	Total	1
MJ2BH1	Water	5-Apr-04	CHROMIUM	1.8	UG/L	J	RA-MW-15A	Total	0
MJ4722	Water	17-Aug-04	CHROMIUM	1.5	UG/L	J	RA-MW-15A	Total	0
184248	Water	4-May-05	CHROMIUM	4.7	UG/L		RA-MW-15A	Total	2
05504290	Water	13-Dec-05	CHROMIUM	37	UG/L		RA-MW-15A	Total	1.3
104251	Water	7-Mar-06	CHROMIUM	5.3	UG/L		RA-MW-15A	Total	0
244290	Water	12-Jun-06	CHROMIUM	4.6	UG/L		RA-MW-15A	Total	0.6
394192	Water	25-Sep-06	CHROMIUM	2.7	UG/L		RA-MW-15A	Total	0.2
494090	Water	2-Dec-06	CHROMIUM	5	UG/L	U	RA-MW-15A	Total	2
134241	Water	29-Mar-07	CHROMIUM	3.7	UG/L		RA-MW-15A	Total	0.3



Well RA-MW-15B

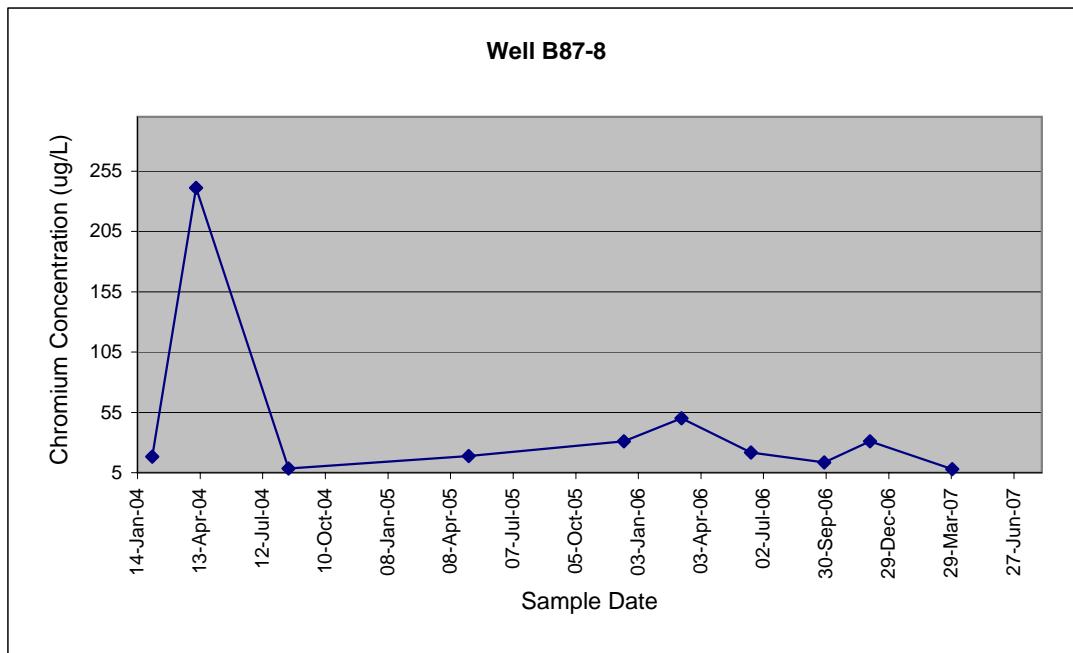
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2507	Water	15-Oct-03	CHROMIUM	35.8	UG/L		RA-MW-15B	Total	<10
MJ27E9	Water	11-Nov-03	CHROMIUM	3.2	UG/L	BJ	RA-MW-15B	Total	<10
MJ2AG8	Water	04-Feb-04	CHROMIUM	136	UG/L		RA-MW-15B	Total	2
MJ2BH2	Water	5-Apr-04	CHROMIUM	5.5	UG/L	J	RA-MW-15B	Total	0
MJ4723	Water	17-Aug-04	CHROMIUM	2.2	UG/L	J	RA-MW-15B	Total	1
184249	Water	4-May-05	CHROMIUM	190	UG/L		RA-MW-15B	Total	9.7
05504288	Water	13-Dec-05	CHROMIUM	113	UG/L		RA-MW-15B	Total	3.5
104252	Water	8-Mar-06	CHROMIUM	8.7	UG/L		RA-MW-15B	Dissolved	5
244292	Water	12-Jun-06	CHROMIUM	5	UG/L	U	RA-MW-15B	Dissolved	4
394190	Water	25-Sep-06	CHROMIUM	2.8	UG/L		RA-MW-15B	Dissolved	4
494092	Water	2-Dec-06	CHROMIUM	16	UG/L		RA-MW-15B	Dissolved	7
134243	Water	29-Mar-07	CHROMIUM	9.2	UG/L		RA-MW-15B	Dissolved	2.4



Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

Well B87-8

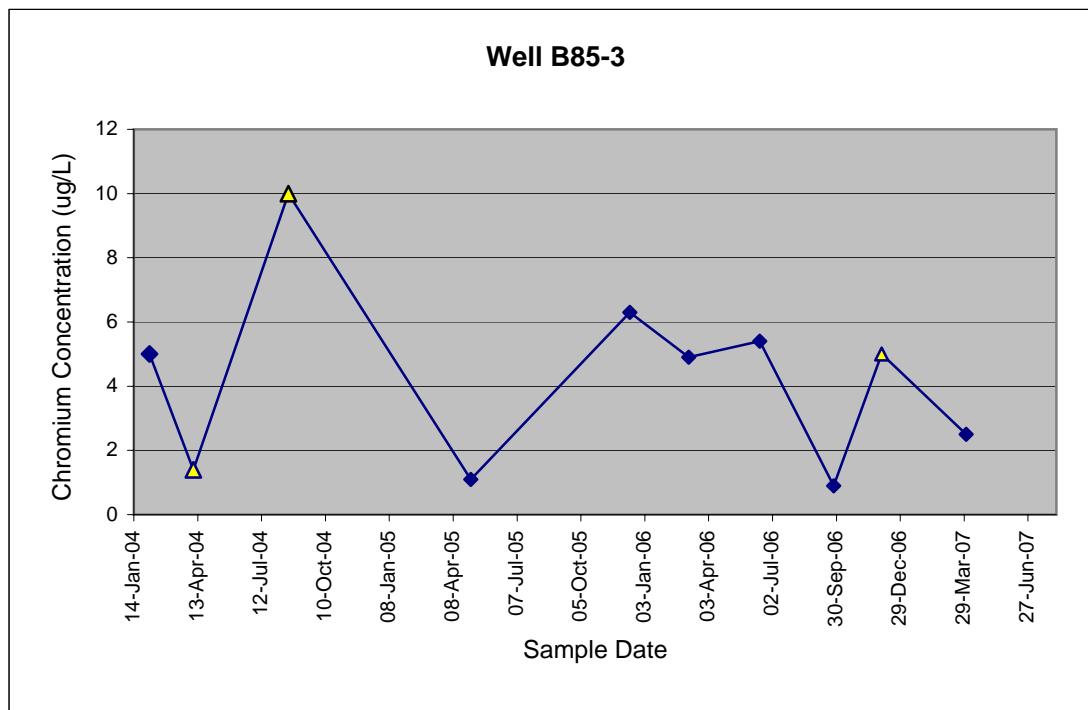
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AG9	Water	04-Feb-04	CHROMIUM	18.2	UG/L		B87-8	Total	2
MJ2BK0	Water	7-Apr-04	CHROMIUM	241	UG/L		B87-8	Total	8
MJ4737	Water	18-Aug-04	CHROMIUM	8.5	UG/L	J	B87-8	Dissolved	36
184247	Water	4-May-05	CHROMIUM	18.8	UG/L		B87-8	Total	6.5
05504297	Water	13-Dec-05	CHROMIUM	31	UG/L		B87-8	Total	5.1
104236	Water	6-Mar-06	CHROMIUM	50	UG/L		B87-8	Total	8
244308	Water	14-Jun-06	CHROMIUM	21.8	UG/L		B87-8	Total	3
394204	Water	27-Sep-06	CHROMIUM	13.4	UG/L		B87-8	Dissolved	13
494082	Water	2-Dec-06	CHROMIUM	31	UG/L		B87-8	Total	0.1
134251	Water	30-Mar-07	CHROMIUM	7.8	UG/L		B87-8	Dissolved	11



Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

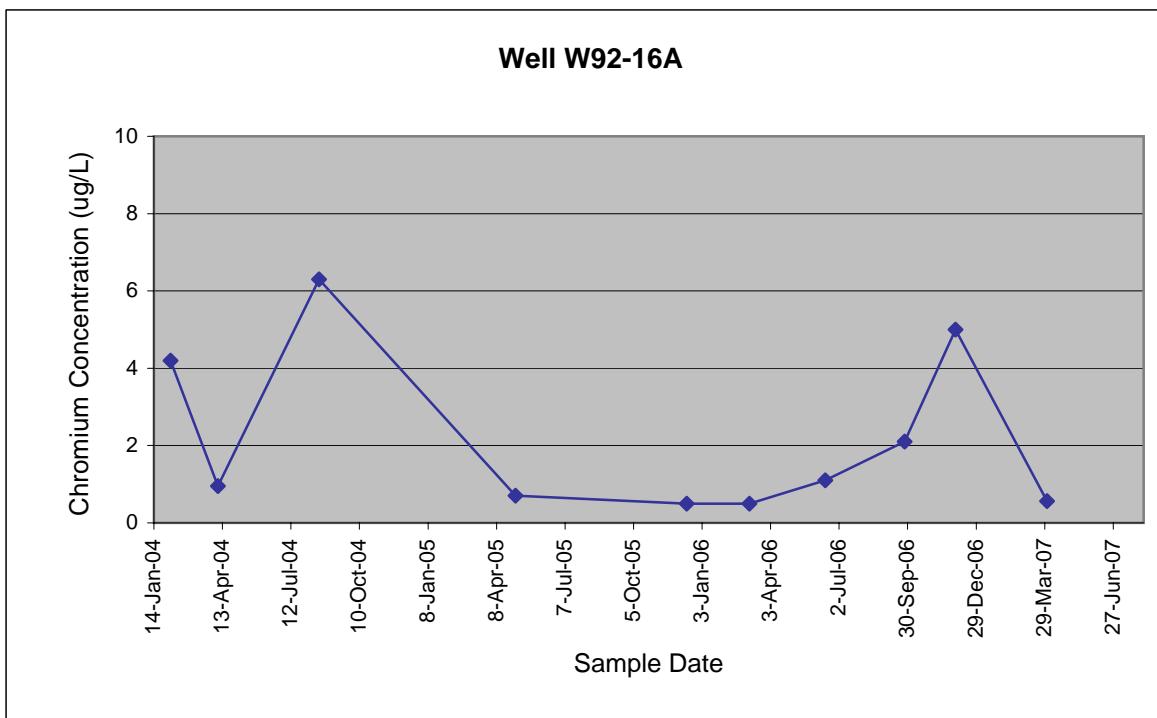
Well B85-3

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH0	Water	05-Feb-04	CHROMIUM	5	UG/L	J	B85-3	Total	1
MJ2BJ6	Water	7-Apr-04	CHROMIUM	1.4	UG/L	U	B85-3	Total	3
MJ4732	Water	18-Aug-04	CHROMIUM	10	UG/L	U	B85-3	Total	0
184232	Water	3-May-05	CHROMIUM	1.1	UG/L		B85-3	Total	2.8
05504298	Water	13-Dec-05	CHROMIUM	6.3	UG/L		B85-3	Total	8.1
104235	Water	6-Mar-06	CHROMIUM	4.9	UG/L		B85-3	Total	7
244311	Water	14-Jun-06	CHROMIUM	5.4	UG/L		B85-3	Total	6
394197	Water	26-Sep-06	CHROMIUM	0.9	UG/L		B85-3	Total	1
494094	Water	3-Dec-06	CHROMIUM	5	UG/L	U	B85-3	Total	7
134266	Water	1-Apr-07	CHROMIUM	2.5	UG/L		B85-3	Total	5.1



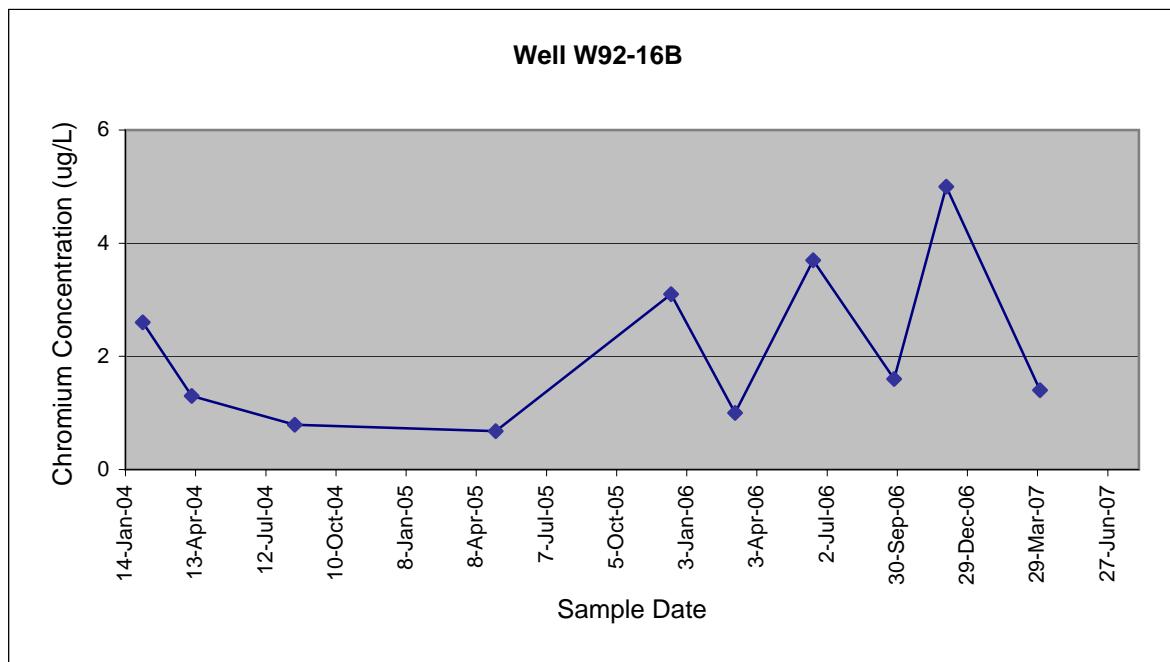
Well W92-16A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH1	Water	05-Feb-04	CHROMIUM	4.2	UG/L	J	W92-16A	Total	2
MJ2BJ7	Water	7-Apr-04	CHROMIUM	0.95	UG/L	U	W92-16A	Total	0
MJ4734	Water	18-Aug-04	CHROMIUM	6.3	UG/L	J	W92-16A	Total	0
184234	Water	3-May-05	CHROMIUM	0.7	UG/L		W92-16A	Total	0.7
05504311	Water	14-Dec-05	CHROMIUM	0.5	UG/L	U	W92-16A	Total	0.7
104234	Water	6-Mar-06	CHROMIUM	0.5	UG/L	U	W92-16A	Total	0.7
244304	Water	14-Jun-06	CHROMIUM	1.1	UG/L		W92-16A	Total	2
394200	Water	26-Sep-06	CHROMIUM	2.1	UG/L		W92-16A	Total	4
494085	Water	2-Dec-06	CHROMIUM	5	UG/L	U	W92-16A	Total	0.1
134267	Water	1-Apr-07	CHROMIUM	0.56	UG/L		W92-16A	Total	2.5



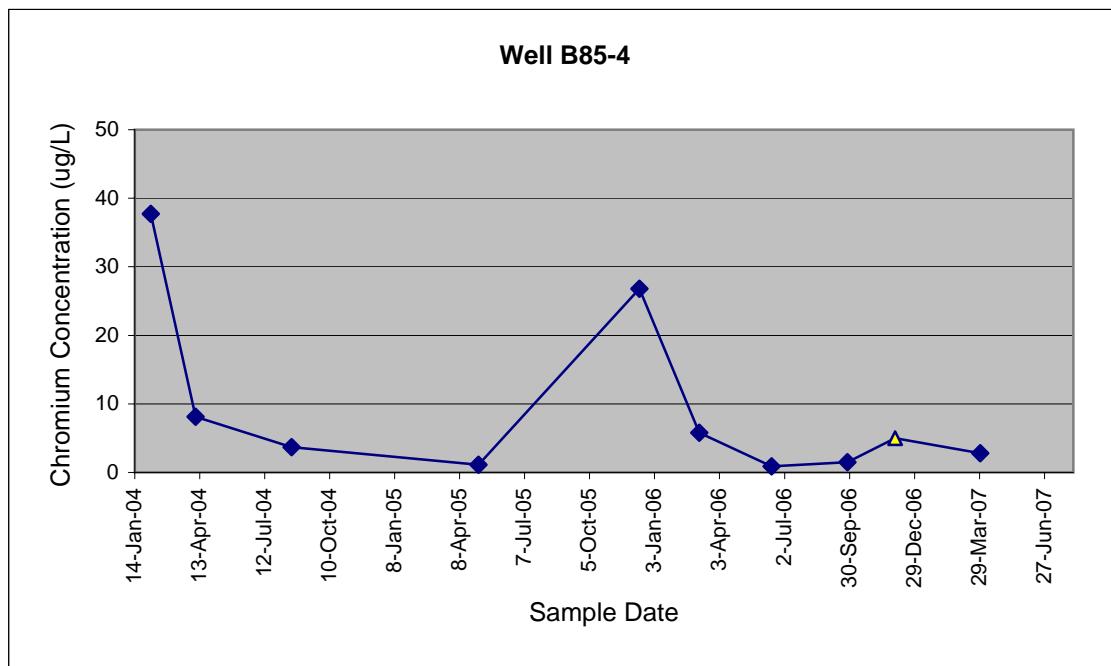
Well W92-16B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH3	Water	05-Feb-04	CHROMIUM	2.6	UG/L	J	W92-16B	Total	7
MJ2BJ8	Water	7-Apr-04	CHROMIUM	1.3	UG/L	U	W92-16B	Total	2
MJ4735	Water	18-Aug-04	CHROMIUM	0.79	UG/L	J	W92-16B	Total	<10
184233	Water	3-May-05	CHROMIUM	0.68	UG/L		W92-16B	Total	3.9
05504312	Water	14-Dec-05	CHROMIUM	3.1	UG/L		W92-16B	Total	5.1
104233	Water	6-Mar-06	CHROMIUM	1	UG/L		W92-16B	Total	8.7
244305	Water	14-Jun-06	CHROMIUM	3.7	UG/L		W92-16B	Total	7
394201	Water	26-Sep-06	CHROMIUM	1.6	UG/L		W92-16B	Total	0.7
494086	Water	2-Dec-06	CHROMIUM	5	UG/L	U	W92-16B	Total	1
134268	Water	1-Apr-07	CHROMIUM	1.4	UG/L		W92-16B	Total	6.8



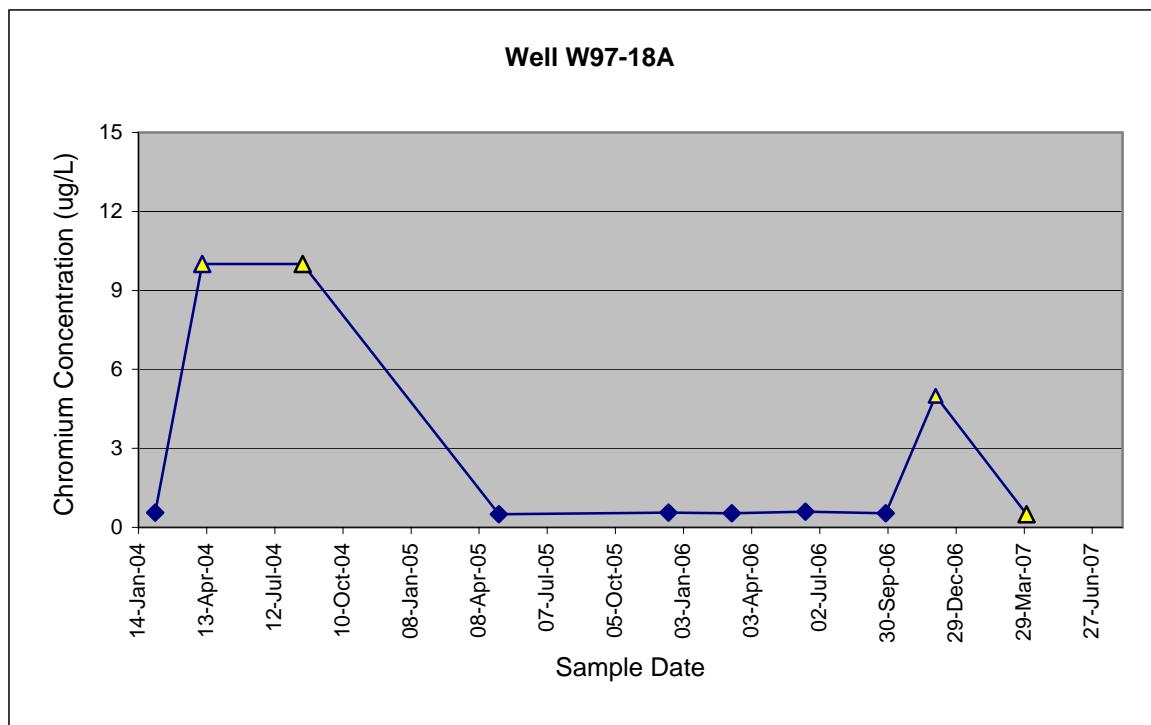
Well B85-4

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH4	Water	05-Feb-04	CHROMIUM	37.7	UG/L		B85-4	Total	1
MJ2BK1	Water	7-Apr-04	CHROMIUM	8.1	UG/L	J	B85-4	Total	0
MJ4738	Water	18-Aug-04	CHROMIUM	3.7	UG/L	J	B85-4	Total	4
184246	Water	4-May-05	CHROMIUM	1.1	UG/L		B85-4	Total	2
05504296	Water	13-Dec-05	CHROMIUM	26.8	UG/L		B85-4	Total	5.7
104237	Water	6-Mar-06	CHROMIUM	5.8	UG/L		B85-4	Total	3.9
244310	Water	14-Jun-06	CHROMIUM	0.9	UG/L		B85-4	Total	0.3
394207	Water	27-Sep-06	CHROMIUM	1.5	UG/L		B85-4	Total	1
494084	Water	2-Dec-06	CHROMIUM	5	UG/L	U	B85-4	Total	0
134252	Water	30-Mar-07	CHROMIUM	2.8	UG/L		B85-4	Total	1.4



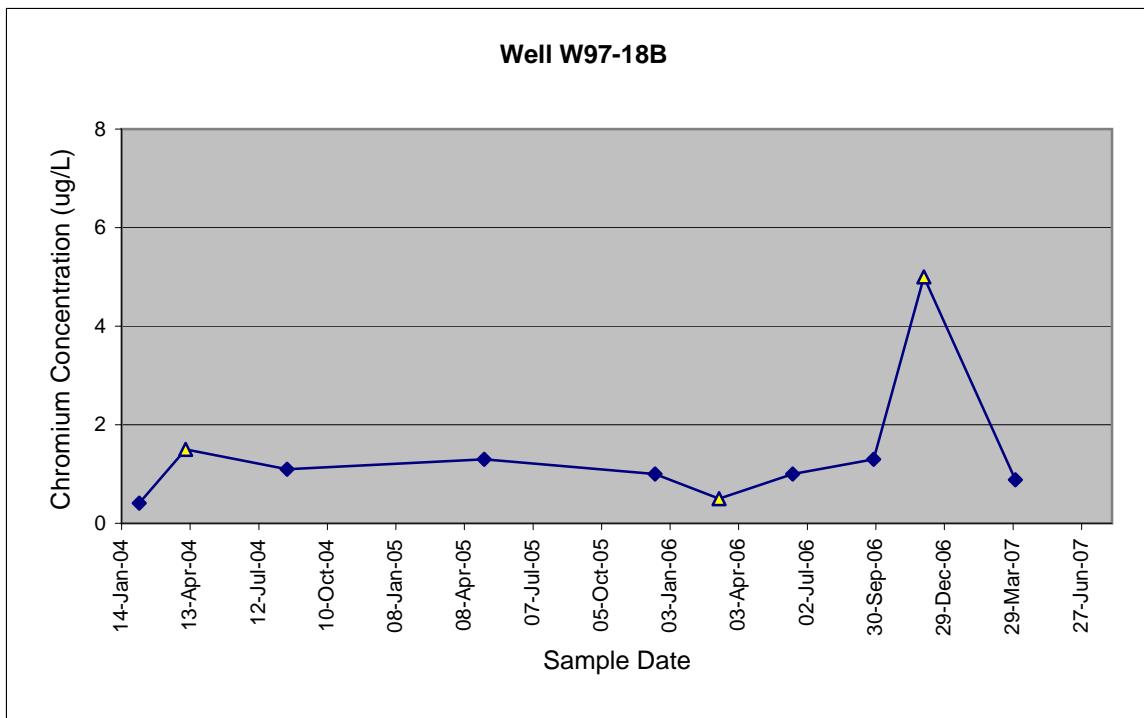
Well W97-18A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH5	Water	05-Feb-04	CHROMIUM	0.56	UG/L	J	W97-18A	Total	14
MJ2BK2	Water	7-Apr-04	CHROMIUM	10	UG/L	U	W97-18A	Total	0
MJ4739	Water	18-Aug-04	CHROMIUM	10	UG/L	U	W97-18A	Total	5
184244	Water	4-May-05	CHROMIUM	0.5	UG/L		W97-18A	Total	1
05504300	Water	14-Dec-05	CHROMIUM	0.56	UG/L		W97-18A	Total	4
104256	Water	8-Mar-06	CHROMIUM	0.53	UG/L		W97-18A	Total	0
244298	Water	13-Jun-06	CHROMIUM	0.6	UG/L		W97-18A	Total	9
394209	Water	27-Sep-06	CHROMIUM	0.53	UG/L		W97-18A	Total	6
494080	Water	2-Dec-06	CHROMIUM	5	UG/L	U	W97-18A	Total	1
134269	Water	1-Apr-07	CHROMIUM	0.5	UG/L	U	W97-18A	Total	8.5



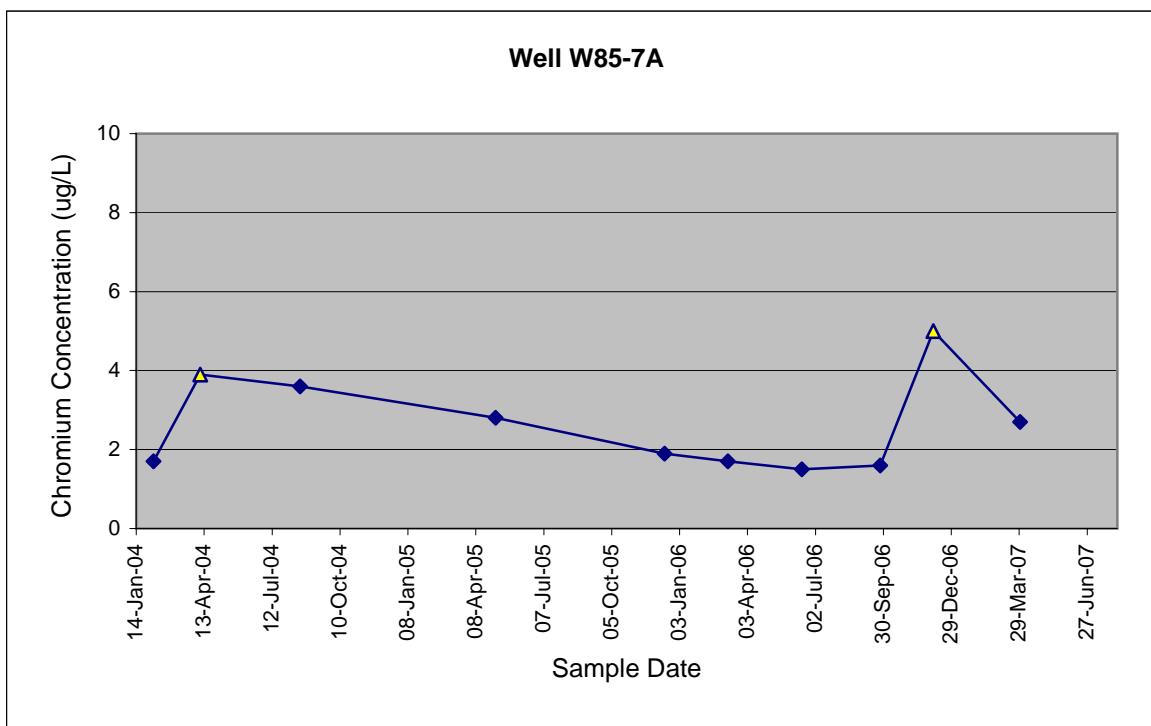
Well W97-18B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH7	Water	06-Feb-04	CHROMIUM	0.41	UG/L	J	W97-18B	Total	2
MJ2BK3	Water	7-Apr-04	CHROMIUM	1.5	UG/L	U	W97-18B	Total	0
MJ4740	Water	18-Aug-04	CHROMIUM	1.1	UG/L	J	W97-18B	Total	5
184245	Water	4-May-05	CHROMIUM	1.3	UG/L		W97-18B	Total	1.1
05504301	Water	14-Dec-05	CHROMIUM	1	UG/L		W97-18B	Total	1.1
104257	Water	8-Mar-06	CHROMIUM	0.5	UG/L	U	W97-18B	Total	1.4
244299	Water	13-Jun-06	CHROMIUM	1	UG/L		W97-18B	Total	6
394208	Water	27-Sep-06	CHROMIUM	1.3	UG/L		W97-18B	Total	3
494081	Water	2-Dec-06	CHROMIUM	5	UG/L	U	W97-18B	Total	0.2
134270	Water	1-Apr-07	CHROMIUM	0.88	UG/L		W97-18B	Total	2.1



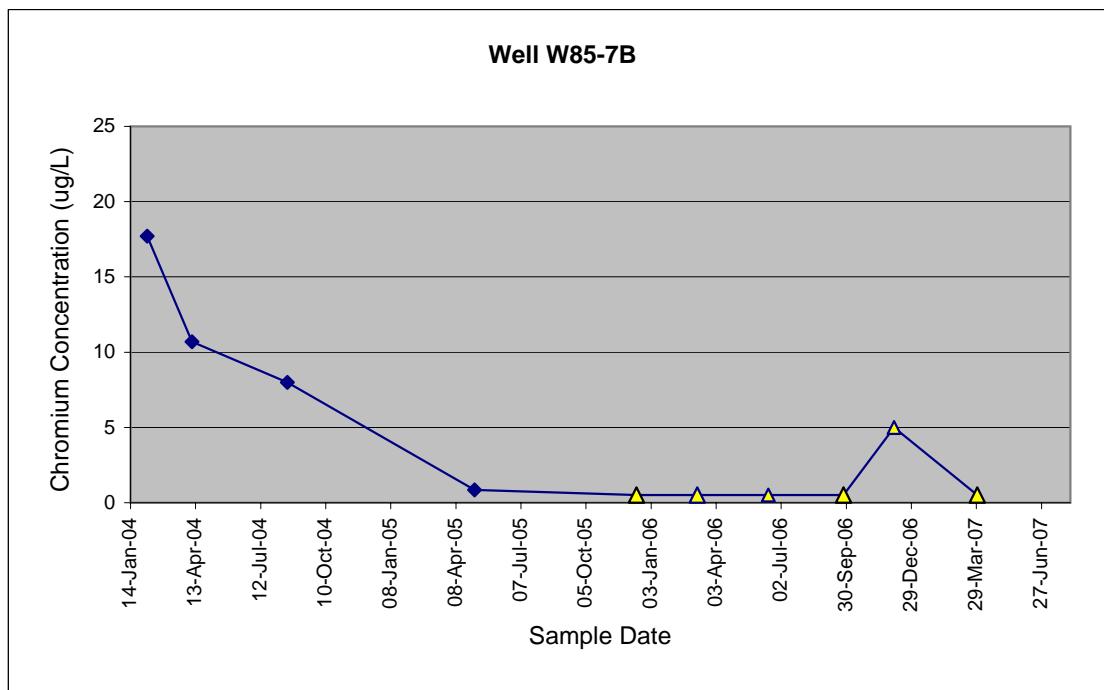
Well W85-7A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH8	Water	06-Feb-04	CHROMIUM	1.7	UG/L	J	W85-7A	Total	1
MJ2BK6	Water	8-Apr-04	CHROMIUM	3.9	UG/L	U	W85-7A	Total	0
MJ4741	Water	18-Aug-04	CHROMIUM	3.6	UG/L	J	W85-7A	Total	3
184239	Water	4-May-05	CHROMIUM	2.8	UG/L		W85-7A	Total	0.5
05504307	Water	14-Dec-05	CHROMIUM	1.9	UG/L		W85-7A	Total	0.2
104254	Water	8-Mar-06	CHROMIUM	1.7	UG/L		W85-7A	Total	0
244306	Water	14-Jun-06	CHROMIUM	1.5	UG/L		W85-7A	Total	0.2
394202	Water	26-Sep-06	CHROMIUM	1.6	UG/L		W85-7A	Total	0.1
494112	Water	5-Dec-06	CHROMIUM	5	UG/L	U	W85-7A	Total	0.8
134247	Water	30-Mar-07	CHROMIUM	2.7	UG/L		W85-7A	Total	0



Well W85-7B

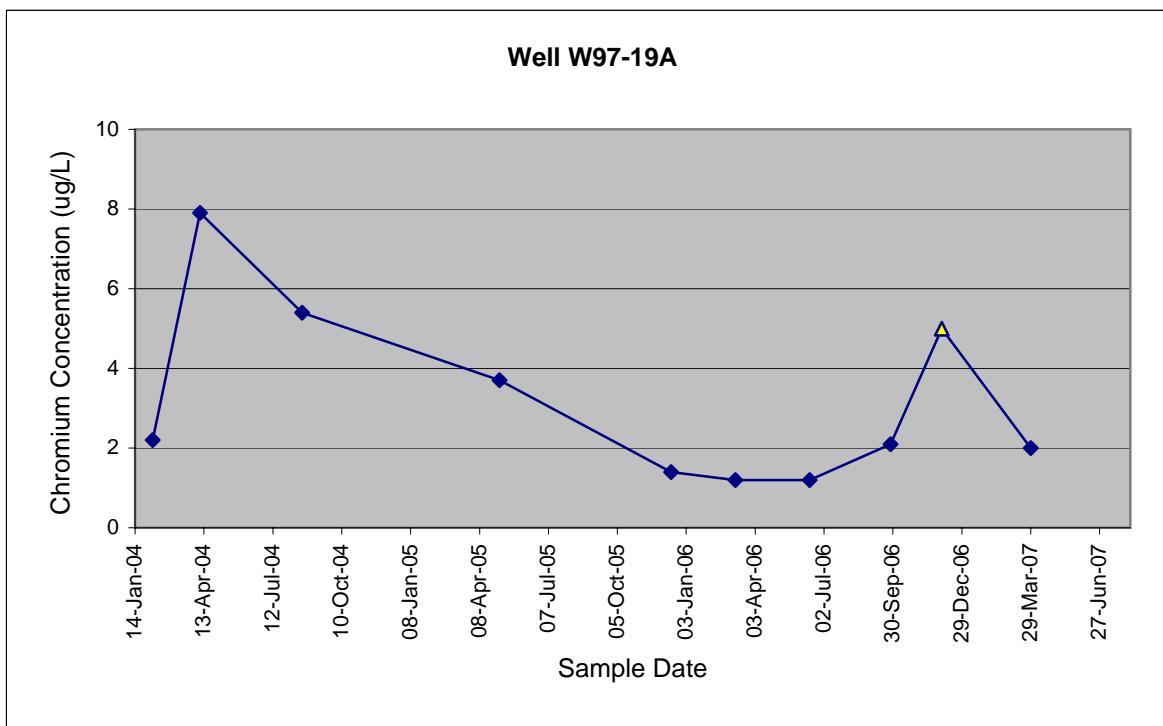
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AH9	Water	06-Feb-04	CHROMIUM	17.7	UG/L		W85-7B	Total	3
MJ2BK7	Water	8-Apr-04	CHROMIUM	10.7	UG/L		W85-7B	Total	0
MJ4742	Water	18-Aug-04	CHROMIUM	8	UG/L	J	W85-7B	Total	25
184240	Water	4-May-05	CHROMIUM	0.84	UG/L		W85-7B	Total	6.7
05504308	Water	14-Dec-05	CHROMIUM	0.5	UG/L	U	W85-7B	Total	1.4
104255	Water	8-Mar-06	CHROMIUM	0.5	UG/L	U	W85-7B	Total	0
244307	Water	14-Jun-06	CHROMIUM	0.5	UG/L	U	W85-7B	Total	0.7
394203	Water	26-Sep-06	CHROMIUM	0.5	UG/L	U	W85-7B	Total	0.8
494111	Water	5-Dec-06	CHROMIUM	5	UG/L	U	W85-7B	Total	0.3
134248	Water	30-Mar-07	CHROMIUM	0.5	UG/L	U	W85-7B	Total	0.6



Note: Although turbidity was greater than 10 NTU, no filtered sample was collected.

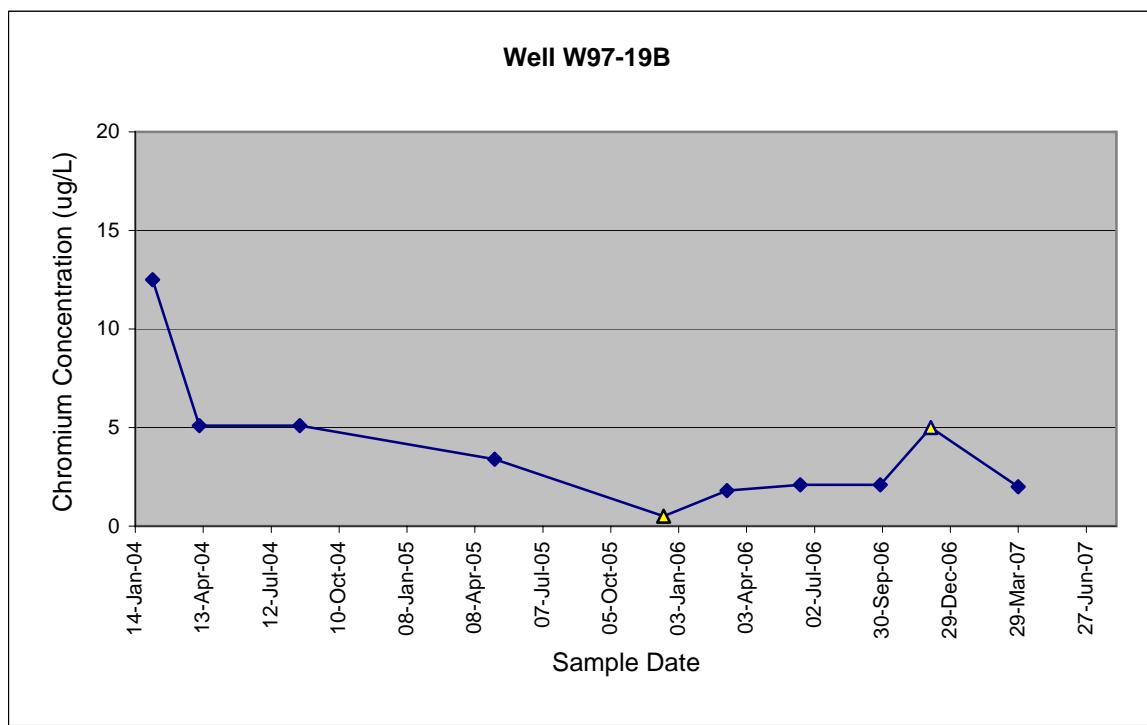
Well W97-19A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ0	Water	06-Feb-04	CHROMIUM	2.2	UG/L	J	W97-19A	Total	7
MJ2BK4	Water	8-Apr-04	CHROMIUM	7.9	UG/L	J	W97-19A	Total	2
MJ4749	Water	19-Aug-04	CHROMIUM	5.4	UG/L	J	W97-19A	Total	8
184242	Water	4-May-05	CHROMIUM	3.7	UG/L		W97-19A	Total	1.8
05504303	Water	14-Dec-05	CHROMIUM	1.4	UG/L		W97-19A	Total	0
104259	Water	8-Mar-06	CHROMIUM	1.2	UG/L		W97-19A	Total	1
244296	Water	13-Jun-06	CHROMIUM	1.2	UG/L		W97-19A	Total	1
394211	Water	27-Sep-06	CHROMIUM	2.1	UG/L		W97-19A	Total	0.4
494095	Water	3-Dec-06	CHROMIUM	5.0	UG/L	U	W97-19A	Total	1
134239	Water	29-Mar-07	CHROMIUM	2.0	UG/L		W97-19A	Total	3.3



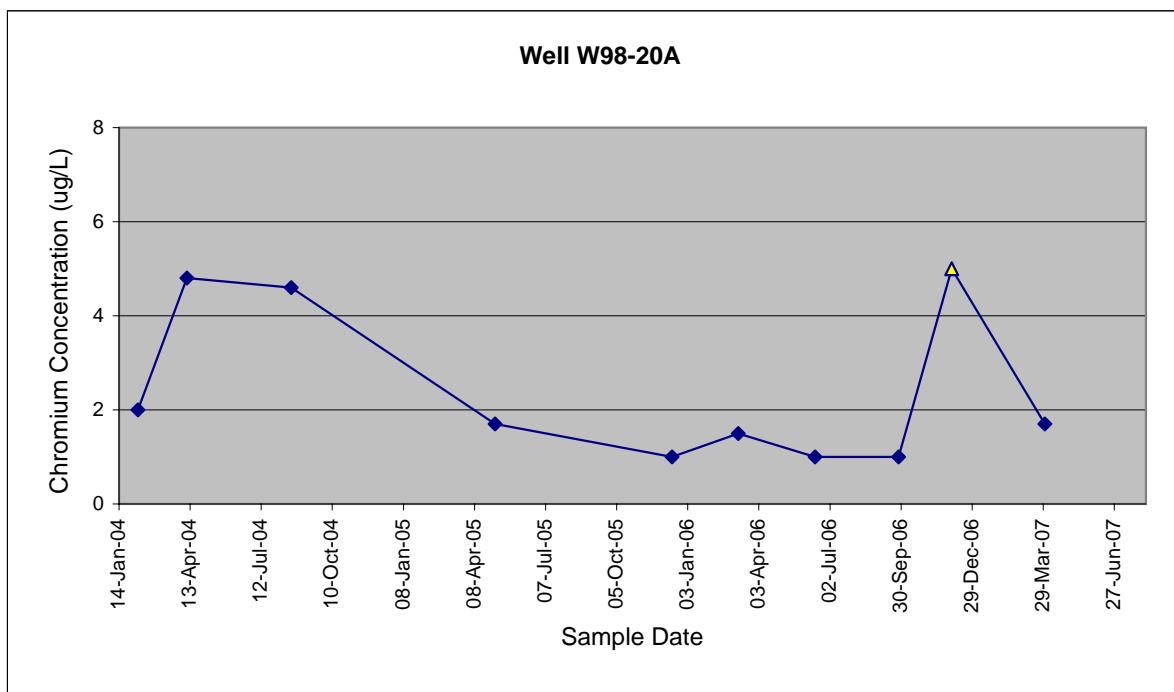
Well W97-19B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ1	Water	06-Feb-04	CHROMIUM	12.5	UG/L	J	W97-19B	Total	0
MJ2BK5	Water	8-Apr-04	CHROMIUM	5.1	UG/L	J	W97-19B	Total	1
MJ4750	Water	19-Aug-04	CHROMIUM	5.1	UG/L	J	W97-19B	Total	3
184243	Water	4-May-05	CHROMIUM	3.4	UG/L		W97-19B	Total	1
05504304	Water	14-Dec-05	CHROMIUM	0.5	UG/L	U	W97-19B	Total	0
104260	Water	8-Mar-06	CHROMIUM	1.8	UG/L		W97-19B	Total	5
244297	Water	13-Jun-06	CHROMIUM	2.1	UG/L		W97-19B	Total	0.5
394212	Water	27-Sep-06	CHROMIUM	2.1	UG/L		W97-19B	Total	1
494096	Water	3-Dec-06	CHROMIUM	5.0	UG/L	U	W97-19B	Total	1
134240	Water	29-Mar-07	CHROMIUM	2.0	UG/L		W97-19B	Total	6.9



Well W98-20A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ2	Water	07-Feb-04	CHROMIUM	2	UG/L	J	W98-20A	Total	1
MJ2BL2	Water	9-Apr-04	CHROMIUM	4.8	UG/L	J	W98-20A	Total	0
MJ4752	Water	19-Aug-04	CHROMIUM	4.6	UG/L	J	W98-20A	Dissolved	20
184241	Water	4-May-05	CHROMIUM	1.7	UG/L		W98-20A	Total	0.5
05504302	Water	14-Dec-05	CHROMIUM	1	UG/L		W98-20A	Total	0
104258	Water	8-Mar-06	CHROMIUM	1.5	UG/L		W98-20A	Total	0
244300	Water	13-Jun-06	CHROMIUM	1	UG/L		W98-20A	Total	0.4
394210	Water	27-Sep-06	CHROMIUM	1	UG/L		W98-20A	Total	0.1
494097	Water	3-Dec-06	CHROMIUM	5	UG/L	U	W98-20A	Total	0.3
134263	Water	31-Mar-07	CHROMIUM	1.7	UG/L		W98-20A	Total	2.4

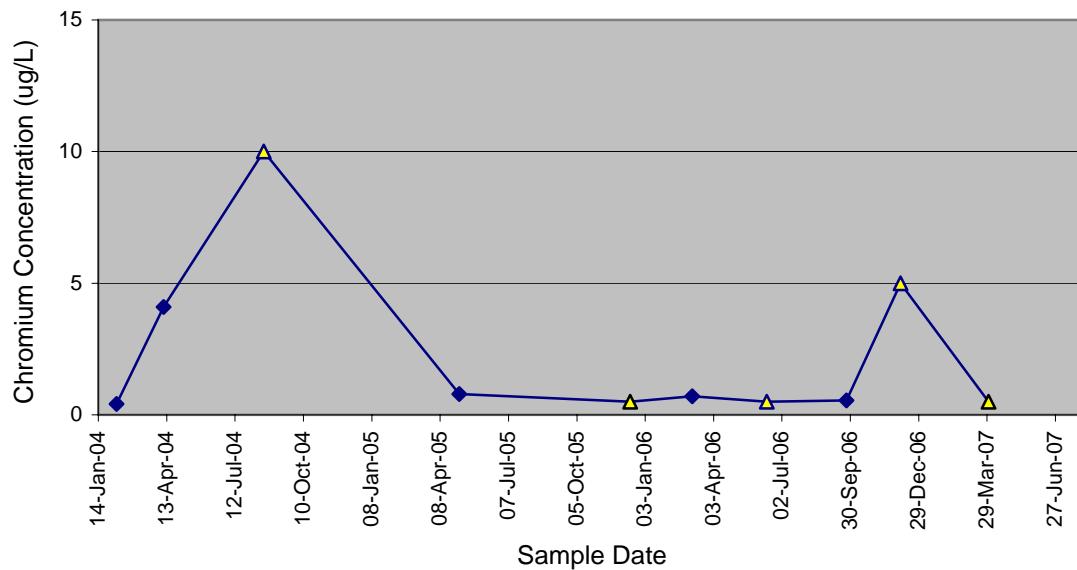


Note: Where a dissolved concentration is used, the NTU value listed is the pre-filtering value.

Well W99-R5A

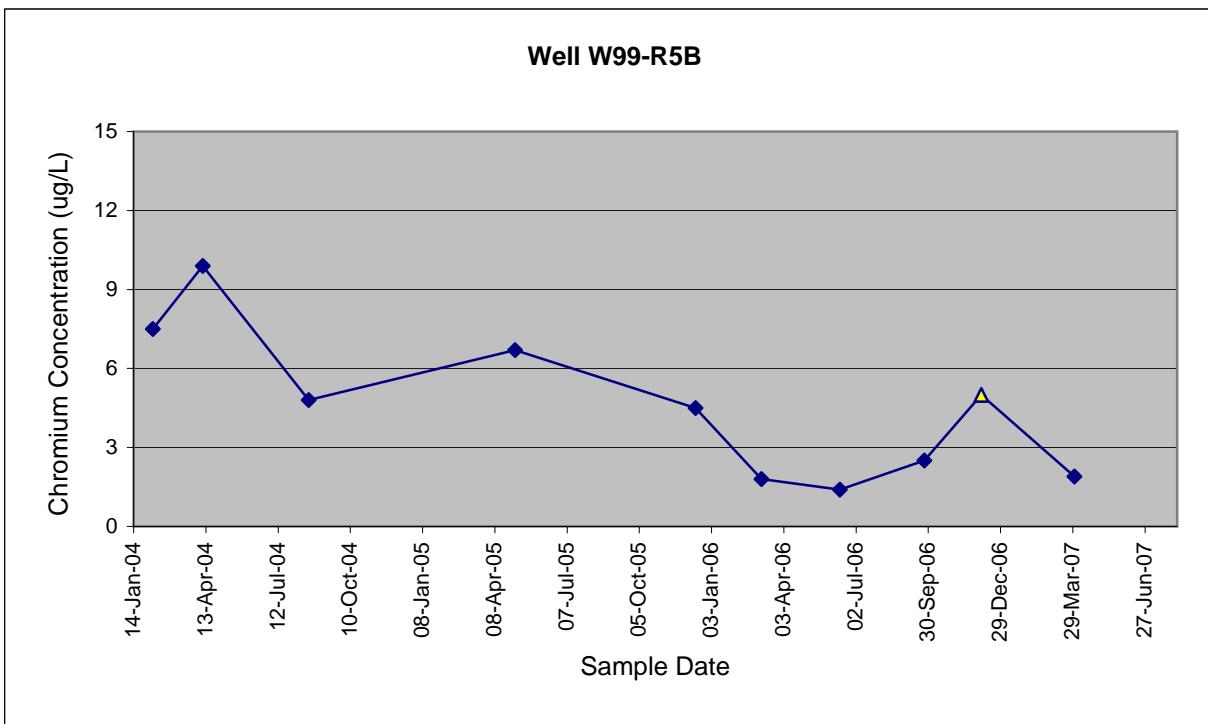
Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ3	Water	07-Feb-04	CHROMIUM	0.41	UG/L	J	W99-R5A	Total	0
MJ2BL3	Water	9-Apr-04	CHROMIUM	4.1	UG/L	J	W99-R5A	Total	0
MJ4745	Water	19-Aug-04	CHROMIUM	10	UG/L	U	W99-R5A	Total	10
184230	Water	3-May-05	CHROMIUM	0.79	UG/L		W99-R5A	Total	1
05504305	Water	14-Dec-05	CHROMIUM	0.5	UG/L	U	W99-R5A	Total	0
104230	Water	6-Mar-06	CHROMIUM	0.7	UG/L		W99-R5A	Total	0
244280	Water	12-Jun-06	CHROMIUM	0.5	UG/L	U	W99-R5A	Total	1
394180	Water	25-Sep-06	CHROMIUM	0.55	UG/L		W99-R5A	Total	1
494115	Water	5-Dec-06	CHROMIUM	5	UG/L	U	W99-R5A	Total	1
134264	Water	31-Mar-07	CHROMIUM	0.5	UG/L	U	W99-R5A	Total	0.3

Well W99-R5A



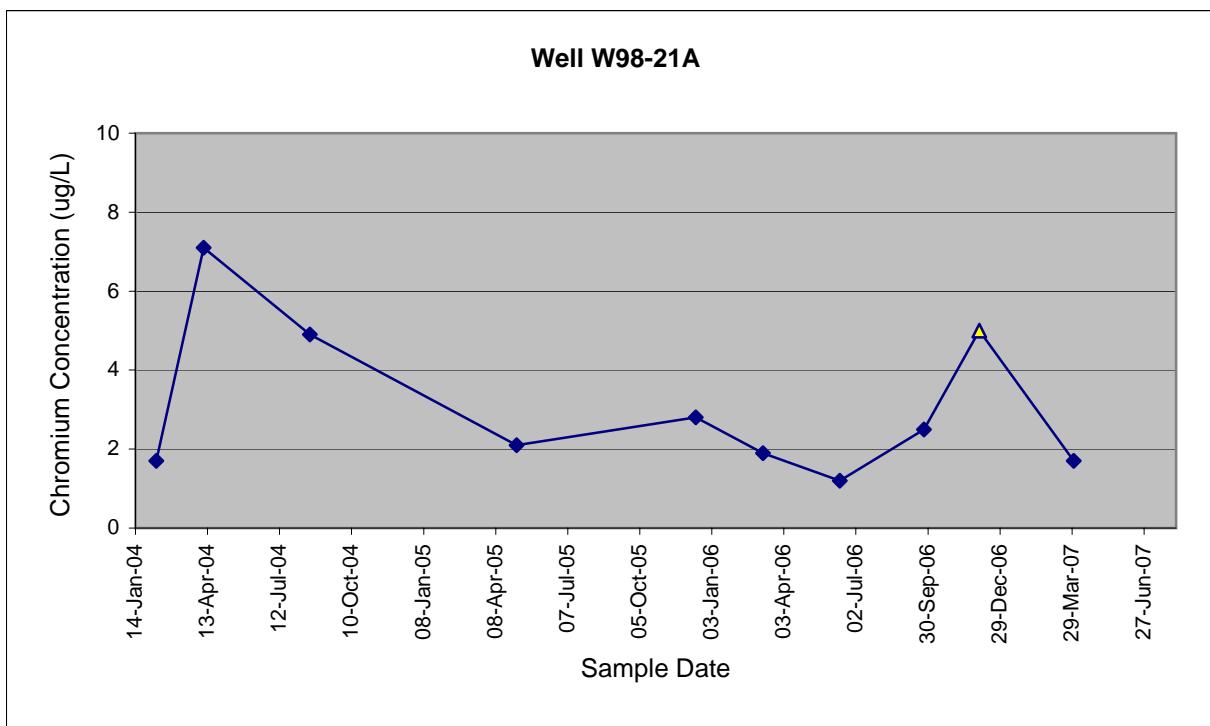
Well W99-R5B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ5	Water	07-Feb-04	CHROMIUM	7.5	UG/L	J	W99-R5B	Total	0
MJ2BL4	Water	9-Apr-04	CHROMIUM	9.9	UG/L	J	W99-R5B	Total	0
MJ4746	Water	19-Aug-04	CHROMIUM	4.8	UG/L	J	W99-R5B	Total	8
184231	Water	3-May-05	CHROMIUM	6.7	UG/L		W99-R5B	Total	2.3
05504306	Water	14-Dec-05	CHROMIUM	4.5	UG/L		W99-R5B	Total	2.1
104231	Water	6-Mar-06	CHROMIUM	1.8	UG/L		W99-R5B	Total	0
244281	Water	12-Jun-06	CHROMIUM	1.4	UG/L		W99-R5B	Total	3
394181	Water	25-Sep-06	CHROMIUM	2.5	UG/L		W99-R5B	Total	1
494116	Water	5-Dec-06	CHROMIUM	5	UG/L	U	W99-R5B	Total	1
134265	Water	31-Mar-07	CHROMIUM	1.9	UG/L		W99-R5B	Total	10



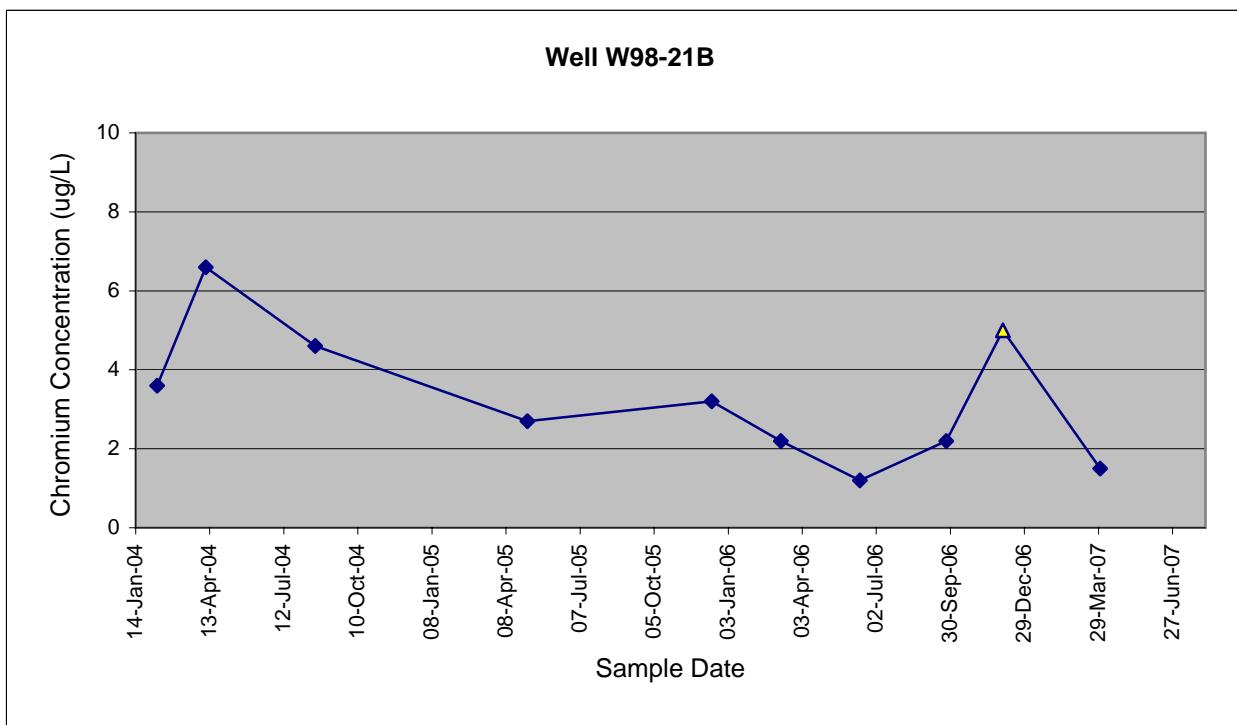
Well W98-21A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ6	Water	09-Feb-04	CHROMIUM	1.7	UG/L	J	W98-21A	Total	No Data
MJ2BK8	Water	8-Apr-04	CHROMIUM	7.1	UG/L	J	W98-21A	Total	0
MJ4743	Water	19-Aug-04	CHROMIUM	4.9	UG/L	J	W98-21A	Total	0
184237	Water	4-May-05	CHROMIUM	2.1	UG/L		W98-21A	Total	1.3
05504309	Water	14-Dec-05	CHROMIUM	2.8	UG/L		W98-21A	Total	0.1
104261	Water	8-Mar-06	CHROMIUM	1.9	UG/L		W98-21A	Total	0
244282	Water	12-Jun-06	CHROMIUM	1.2	UG/L		W98-21A	Total	0.3
394185	Water	25-Sep-06	CHROMIUM	2.5	UG/L		W98-21A	Total	0.2
494098	Water	3-Dec-06	CHROMIUM	5	UG/L	U	W98-21A	Total	0.1
134261	Water	31-Mar-07	CHROMIUM	1.7	UG/L		W98-21A	Total	0.2



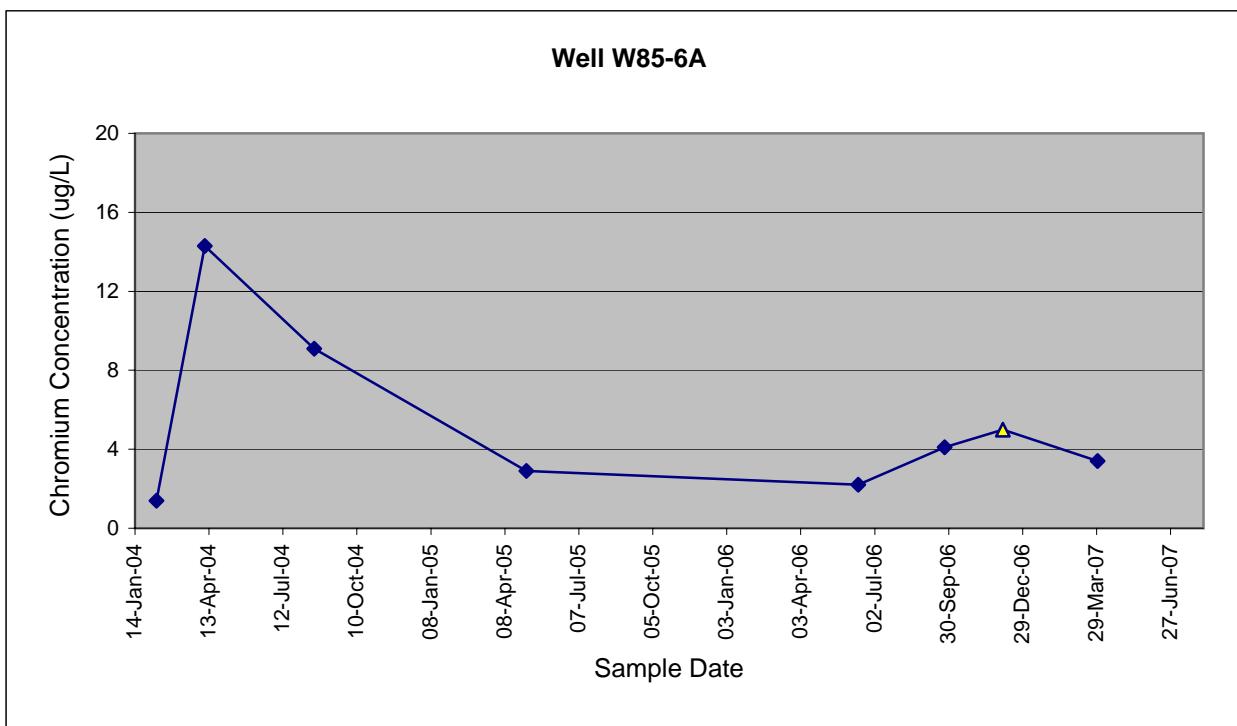
Well W98-21B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ7	Water	09-Feb-04	CHROMIUM	3.6	UG/L	J	W98-21B	Total	No Data
MJ2BK9	Water	8-Apr-04	CHROMIUM	6.6	UG/L	J	W98-21B	Total	0
MJ4744	Water	19-Aug-04	CHROMIUM	4.6	UG/L	J	W98-21B	Total	5
184238	Water	4-May-05	CHROMIUM	2.7	UG/L		W98-21B	Total	0.5
05504310	Water	14-Dec-05	CHROMIUM	3.2	UG/L		W98-21B	Total	0
104262	Water	8-Mar-06	CHROMIUM	2.2	UG/L		W98-21B	Total	0
244283	Water	12-Jun-06	CHROMIUM	1.2	UG/L		W98-21B	Total	0.3
394186	Water	25-Sep-06	CHROMIUM	2.2	UG/L		W98-21B	Total	0.1
494099	Water	3-Dec-06	CHROMIUM	5	UG/L	U	W98-21B	Total	0.2
134262	Water	31-Mar-07	CHROMIUM	1.5	UG/L		W98-21B	Total	0.1



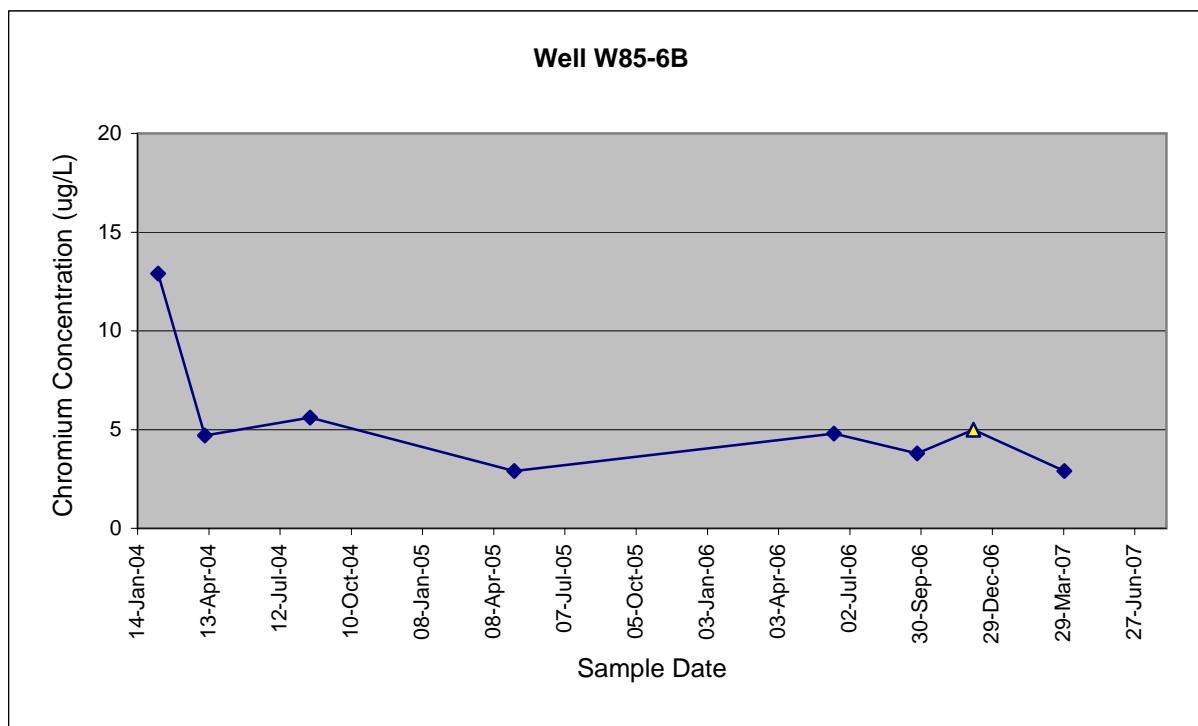
Well W85-6A

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ8	Water	09-Feb-04	CHROMIUM	1.4	UG/L	J	W85-6A	Total	No Data
MJ2BL0	Water	8-Apr-04	CHROMIUM	14.3	UG/L		W85-6A	Total	0
MJ4747	Water	19-Aug-04	CHROMIUM	9.1	UG/L	J	W85-6A	Total	<10
184235	Water	4-May-05	CHROMIUM	2.9	UG/L		W85-6A	Total	1
244284	Water	12-Jun-06	CHROMIUM	2.2	UG/L		W85-6A	Total	0.7
394182	Water	25-Sep-06	CHROMIUM	4.1	UG/L		W85-6A	Total	0.1
494113	Water	5-Dec-06	CHROMIUM	5	UG/L	U	W85-6A	Total	2
134245	Water	30-Mar-07	CHROMIUM	3.4	UG/L		W85-6A	Total	0.5



Well W85-6B

Sample No.	Matrix	Sample Date	Analyte	Conc.	Units	Qualifier	Station Location	Notes	NTU
MJ2AJ9	Water	09-Feb-04	CHROMIUM	12.9	UG/L		W85-6B	Total	No Data
MJ2BL1	Water	8-Apr-04	CHROMIUM	4.7	UG/L	J	W85-6B	Total	0
MJ4748	Water	19-Aug-04	CHROMIUM	5.6	UG/L	J	W85-6B	Total	5
184236	Water	4-May-05	CHROMIUM	2.9	UG/L		W85-6B	Total	1
244286	Water	12-Jun-06	CHROMIUM	4.8	UG/L		W85-6B	Total	49
394183	Water	25-Sep-06	CHROMIUM	3.8	UG/L		W85-6B	Total	14
494114	Water	5-Dec-06	CHROMIUM	5	UG/L	U	W85-6B	Total	9
134246	Water	30-Mar-07	CHROMIUM	2.9	UG/L		W85-6B	Total	4.6



APPENDIX B
LABORATORY DATA SHEETS

CHROMIUM

Manchester Environmental Laboratory

7411 Beach Dr E, Port Orchard, Washington 98366

Case Narrative

May 14, 2007

Subject: Metals Frontier Hardchrome

Project No: 126007

Officer: Guy Barrett

By: Dean Momohara
S.

Summary

The samples were analyzed and/or digested using the following methods: EPA method 200.7 for the digestion and analysis of minerals and EPA method 200.8 (ICPMS) for the digestion and analysis of trace metals.

All analyses requested were evaluated by established regulatory quality assurance guidelines.

Sample Information

Samples were received by Manchester Environmental Laboratory on 04/02/07. All coolers were received within the proper temperature range of 0°C - 6°C. The samples were received in good condition and were properly preserved. Forty one (41) samples were received and assigned laboratory identification numbers 134230 – 134270.

Holding Times

All analyses were performed within established EPA holding times.

Calibration

Instrument calibrations and calibration checks were performed in accordance with the appropriate method. Except for one of the continuing calibration checks for dissolved silver, all initial and continuing calibration checks (CCV) were within control limits.

One of the associated CCVs for samples 134255, 134258, and 134260 for dissolved silver failed. The samples were qualified as estimates. ICPMS calibration correlation coefficients were within the acceptance range of 1.000 - 0.995. The instruments were calibrated with NIST traceable standards and verified to be in calibration with a second source NIST traceable standard.

Method Blanks

No analytically significant levels of analyte were detected in the method blanks associated with these samples.

Matrix Spikes

The matrix spike (MS) recoveries for total calcium for sample 134252 were not calculated. The standard spiking level was insufficient for the elevated concentration of analyte in the source sample and no action was taken.

The MS recoveries for dissolved selenium for sample 134251 were greater than the upper acceptance limit. The result was qualified as an estimate.

All other MS recoveries were within the acceptance limits of 75% - 125%.

Replicates

All duplicate relative percent differences were within the acceptance range of 0% - 20%.

Laboratory Control Samples

All laboratory control sample recoveries were within the acceptance limits of 85% - 115%.

Other Quality Assurance Measures and Issues

Except for internal standard recoveries associated with samples 134256, 134257, and 134259 for total copper and for total vanadium, all internal standard recoveries were within acceptance limits. The recoveries for samples 134256, 134257 and 134259 were outside of the acceptance range and the samples were qualified as estimates.

Sample 134253 for total selenium was qualified as an estimate. Each sample is analyzed in three replicates. The precision between replicate analyses was greater than the acceptance limit.

Sample 134252 for total beryllium was qualified as an estimate. The precision between replicate analyses of both of its MSs was greater than the acceptance limit.

Sample 134255 for dissolved copper was qualified as an estimate. The analyses between the neat and diluted sample did not compare.

The results for total and dissolved aluminum were qualified as estimates. The samples contained matrix interference that caused the background to be elevated in each sample.

U - The analyte was not detected at or above the reported result.

UJ - The analyte was not detected at or above the reported estimated result.

J - The analyte was positively identified. The associated numerical result is an estimate.

NC - Not Calculated

bold - The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Please call Dean Momohara at (360) 871-8808 to further discuss this project.

cc: Project File

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Chromium

Project Name: Frontier Hardchrome				LIMS Project ID: 1260-07				
Project Officer: Guy Barrett				Method: EPA200.8				
Date Reported: 04/30/07				Analyte: Chromium				
Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
07134230		RA-MW-14A	Water	2.2		ug/L	03/29/07	04/25/07
07134231		RA-MW-14B	Water	1.5		ug/L	03/29/07	04/25/07
07134232		RA-MW-17A	Water	5.0		ug/L	03/29/07	04/25/07
07134233		RA-MW-13A <i>SV</i>	Water	1.4		ug/L	03/29/07	04/25/07
07134234		RA-MW-1/3B <i>SV</i>	Water	1.2		ug/L	03/29/07	04/25/07
07134235		RA-MW-1/3C <i>SV</i>	Water	2.2		ug/L	03/29/07	04/25/07
07134236		RA-MW-16A	Water	2.9		ug/L	03/29/07	04/25/07
07134237		RA-MW-16B	Water	121		ug/L	03/29/07	04/25/07
07134239		W97-19A	Water	2.0		ug/L	03/29/07	04/25/07
07134240		W97-19B	Water	2.0		ug/L	03/29/07	04/25/07
07134241		RA-MW-15A	Water	3.7		ug/L	03/29/07	04/25/07
07134242		RA-MW-15B	Water	31.7		ug/L	03/29/07	04/25/07
07134245		W85-6A	Water	3.4		ug/L	03/30/07	04/25/07
07134246		W85-6B	Water	2.9		ug/L	03/30/07	04/25/07
07134247		W85-7A	Water	2.7		ug/L	03/30/07	04/25/07
07134248		W85-7B	Water	0.50	U	ug/L	03/30/07	04/25/07
07134249		B87-8	Water	20.2		ug/L	03/30/07	04/25/07
07134250			Water	20.2		ug/L	03/30/07	04/25/07
07134252		B85-4	Water	2.8		ug/L	03/30/07	04/25/07
07134252		LMX1 (matrix spike)		103		%	03/30/07	04/25/07
07134252		LMX2 (matrix spike)		103		%	03/30/07	04/25/07
07134253		RA-MW-12B	Water	3.4		ug/L	03/30/07	04/25/07
MB07102I1		Lab BLNK	Water	0.50	U	ug/L		04/25/07
ML07102I1		Lab LCS-	Water	105		%		04/25/07

Authorized By: M.J. Jones

Release Date: 4/30/07

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Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Chromium

Project Name: Frontier Hardchrome				LIMS Project ID: 1260-07			
Project Officer: Guy Barrett				Method: EPA200.8			
Date Reported: 04/30/07				Analyte: Chromium			
Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected Analyzed
07134254		RA-MW-12A	Water	79.3		ug/L	03/30/07 04/25/07
07134256		RA-MW-12C	Water	5.6		ug/L	03/31/07 04/25/07
07134257		RA-MW-11A	Water	4.6		ug/L	03/31/07 04/25/07
07134259		RA-MW-11B	Water	2.7		ug/L	03/31/07 04/25/07
07134261		W98-21A	Water	1.7		ug/L	03/31/07 04/25/07
07134262		W98-21B	Water	1.5		ug/L	03/31/07 04/25/07
07134263		W98-20A	Water	1.7		ug/L	03/31/07 04/25/07
07134264		W99-R5A	Water	0.50	U	ug/L	03/31/07 04/25/07
07134265		W99-R5B	Water	1.9		ug/L	03/31/07 04/25/07
07134266		B85-3	Water	2.5		ug/L	04/01/07 04/25/07
07134266		LMX1 (matrix spike)		90		%	04/01/07 04/25/07
07134266		LMX2 (matrix spike)		95		%	04/01/07 04/25/07
07134267		W92-16A	Water	0.56		ug/L	04/01/07 04/25/07
07134268		W92-16B	Water	1.4		ug/L	04/01/07 04/25/07
07134269		W97-18A	Water	0.50	U	ug/L	04/01/07 04/25/07
07134270		W97-18B	Water	0.88		ug/L	04/01/07 04/25/07
MB07113I1		Lab BLNK	Water	0.50	U	ug/L	04/25/07
ML07113I1		Lab LCS-	Water	99		%	04/25/07

Authorized By: M. Davis

Release Date: 4/30/07

Page: 1

Washington State Department of Ecology
Manchester Environmental Laboratory
Analysis Report for
Chromium, Dissolved

Project Name: Frontier Hardchrome				LIMS Project ID: 1260-07				
Project Officer: Guy Barrett				Method: EPA200.8				
Date Reported: 04/17/07				Analyte: Chromium				
Sample	QC	Field ID	Matrix	Result	Qualifier	Units	Collected	Analyzed
07134238		RA-MW-16B	Field Filtered water	7.94		ug/L	03/29/07	04/13/07
07134243		RA-MW-15B	Field Filtered water	9.21		ug/L	03/29/07	04/13/07
07134244			Field Filtered water	10.0		ug/L	03/29/07	04/13/07
07134251		B87-8	Field Filtered water	7.83		ug/L	03/30/07	04/13/07
07134251		LMX1 (matrix spike)		97		%	03/30/07	04/13/07
07134251		LMX2 (matrix spike)		97		%	03/30/07	04/13/07
07134255		RA-MW-12A	Field Filtered water	5.0		ug/L	03/30/07	04/13/07
07134258		RA-MW-11A	Field Filtered water	6.4		ug/L	03/31/07	04/13/07
07134260		RA-MW-11B	Field Filtered water	3.0		ug/L	03/31/07	04/13/07
MB0710312		Lab BLNK	Water	0.25	U	ug/L		04/13/07
ML0710312		Lab LCS-	Water	95		%		04/13/07

Authorized By: M. Jansen

Release Date: 4/17/07

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VOLATILE ORGANIC CARBON

(VOCs)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

May 14, 2007

MEMORANDUM

SUBJECT: Data validation report for Volatile Organic Compounds (VOCs) analysis of samples from the Frontier Hard Chrome Site
Project Code: TEC-892A

FROM: Brandon Perkins, QA Chemist
Office of Environmental Assessment

TO: Claire Hong, Remedial Project Manager
Office of Environmental Cleanup

Bernie Zavala, Hydrogeologist
Office of Environmental Assessment

CC: Chris Pace, ESAT Project Officer
Region 10 Manchester Laboratory

The quality assurance (QA) review of 12 water sample collected from the above referenced site has been completed. The samples were analyzed for VOCs in accordance with the SW-846 8260B. The analysis was performed by Region 10 Manchester Environmental Laboratory. The following samples were reviewed in this validation report:

07134100	07134101	07134102	07134103	07134104	07134105
07134106	07134107	07134108	07134109	07134110	07134111

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control (QC) Specifications outlined in USEPA SW-846 8260B, Frontier Hard Chrome Post Remedial Action Long-Term Monitoring QAPP (February 2004), and Frontier Hard Chrome Post Remedial Action Long-Term Monitoring QAPP addendum (2/26/07). The conclusions presented herein are based on the information provided for the review.

Holding Time/Preservation - Acceptable

The samples were collected on 3/30/07 and received by the lab on 4/2/07; VOCs analysis occurred on 4/6/07. None of the data was qualified on this basis. The pH of samples was verified \leq 2. None of the data was qualified on this basis.

Instrument Performance Checks – Acceptable

The GC/MS system used for VOCs analysis met the performance checks and ion abundance criteria. All of the samples were analyzed within an acceptable 12-hour QC period and the instruments used remained stable throughout the course of analyses. None of the data were qualified on this basis.

Initial Calibrations (ICAL) - Acceptable

All of the GC/MS ICALs evaluated in this report met the technical acceptance criteria for the percent relative standard deviations (%RSDs), coefficient of determination (R^2), chromatographic resolutions, retention times, and minimum response factors (RRFs) for all target compounds and surrogates with the following exceptions:

Continuing Calibration Verification (CCV)

All of the GC/MS CCVs for VOCs met the criteria for frequency of analysis, and the technical acceptance criteria (resolution and performance checks, minimum response factors (RFs), percent differences (%Ds)) with the following exceptions:

Date/Time of Analysis	Compound	%D (25% limit)	Qualifier Detect/Non-detect	Associated Samples
4/6/07 12:40 instr.: Janeway	Acetone	32	J/None	All Samples

Quantitation Limits - Acceptable

The samples were analyzed at the required quantitation limits. The quantitation limits were based on the lowest standard concentration analyzed in the initial calibration. Target compounds that were detected at concentrations less than the quantitation limits were qualified as estimated, "J". Detected compounds at concentrations over the calibration range were analyzed by the laboratory at a dilution. In cases like this, the reviewer crossed-out the initial concentration and reported the values reported from the dilution runs. Trace levels of common laboratory contaminants detected in the samples at concentrations <CRQLs were qualified by the reviewer as non-detect, "U" and reported at the quantitation limits. All of the reported results were adjusted for sample amounts analyzed. When applicable, all of the "E" and "D" qualifiers applied by the laboratory were crossed-out by the reviewer.

It is recommended that data users should utilize the results/analytical run selected by the reviewer where more than one analysis was performed on a single extract (i.e., dilution, re-analysis).

Blanks - Acceptable

All method and/or instrument blanks analyzed for VOCs were acceptable. None of the data was qualified on this basis.

Analytical Sequence - Acceptable

All of the standards, blanks, samples, and QC samples were analyzed in accordance with the specified analytical sequence. None of the data was qualified on this basis.

Surrogates – Acceptable

Five deuterated VOCs were spiked in all the samples and QC samples to evaluate laboratory performance. All of the surrogate recoveries met the applicable recovery criteria. None of the data was qualified on this basis.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Sample 07134108 was designated for MS/MSD analysis. All MS/MSD analyses met the advisory technical acceptance criteria for percent recovery (%R) and relative percent difference (RPD) with the following exceptions:

Compound	MS %R	MSD %R	Control Limits	RPD	Control Limits
Acetone	152*	134*	70-130	13	30
trans-1,4-dichloro-2-butene	45*	42*	70-130	5	30

*outside of control limits

Acetone was not detected in sample 07134108 therefore none of the data was qualified on this basis.

Trans-1,4-dichloro-2-butene was not detected in sample 07134108 and was qualified as estimated, "UJ".

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

The LCS/LCSD analyses met the advisory technical acceptance criteria for percent recovery (%R) and relative percent difference (RPD) with the following exceptions:

Compound	LCS %R	LCSD %R	Control Limits	RPD	Control Limits
Acetone	132*	117	70-130	12	30
1,1-Dichloropropanone	101	70	70-130	37*	30

*outside of control limits

Because acetone was only slightly out of criteria in the LCS and was acceptable in the LCSD, none of the data were qualified on this basis.

1,1-Dichloropropanone was not detected and therefore was qualified estimated "UJ" in all samples.

Internal Standards - Acceptable

The acceptance criteria for internal standards (IS) are <15 seconds for retention time (RT) shifts and -50% to +100% of the IS area as compared to the IS RT and area of the daily continuing calibration standard. All of the results met the IS area and RT shift criteria.

Compound Identification

All of the compounds detected in the GC/MS analyses were within the retention time windows, met the USEPA spectral matching criteria and were judged to be acceptable except for the following situation: Detected compounds with results below the CRQL and that had weak spectra were qualified as non-detected and reported at the CRQL level by the reviewer.

Tentatively Identified Compounds

Peaks that were detected in the samples at areas >10% of the internal standards and were not part of the target compound lists were identified as tentatively identified compounds (TICs). TICs that were both found in the sample and in the associated method blank(s) were crossed-out by the reviewer. Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were also crossed-out by the reviewer and qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "JN", tentatively identified at the estimated concentration.

Laboratory Contact

The laboratory was not contacted for this review.

Overall Assessment

The total number of data points was 1008. 0.1% of the total data points were qualified estimated due to calibration exceedances. 0.1% of the total data points were qualified estimated due to MS/MSD exceedances. 1.2% of the total data points were qualified estimated due to LCS/LCSD exceedances.

All of the samples were analyzed in accordance with technical specifications outlined in the QAPP. The data, as qualified are acceptable, with the exception of those with unusable qualifiers, and can be used for all purposes.

Data Qualifiers		
	U	The analyte was not detected at or above the reported result.
	J	The analyte was positively identified. The associated numerical result is an estimate.
	UJ	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.
	R	The data are unusable for all purposes.
	N	There is evidence the analyte is present in this sample.
	JN	There is evidence that the analyte is present. The associated numerical result is an estimate.

Sample Tracking Log
Frontier Hard Chrome - March 30, 2007

EPA's Laboratory sample numbers	Station Description	Media	Date / Time
07134100	W-85-3A	Ground water	03-30-2007/ 0815
07134101	W-85-23A (duplicate of W-85-3A)	Ground water	0825
07134102	W-85-3B	Ground water	0845
07134103	W-85-6A	Ground water	0945
07134104	W-85-6B	Ground water	1025
07134105	W-85-7A	Ground water	1118
07134106	W-85-7B	Ground water	1155
07134107	B-87-8	Ground water	1250
07134108	B-85-4 (MS/MSD)	Ground water	1340
07134109	RA-MW-12A	Ground water	1533
07134110	RA-MW-12B	Ground water	1505
07134111	MW-24A (Trip Blank)	water	1515

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134100
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: W-85-3A (3-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID : N1
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prp Date :
Analytes(s):				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromochloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	0.53	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	23	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	106	%Rec
	17060070	1,2-Dichloroethane-d4	112	%Rec
	540363	Benzene, 1,4-difluoro-	102	%Rec
	460004	p-Bromofluorobenzene	86	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

	Result	Units	Qlfr
Surrogate(s): 2037265	Toluene-d8	85	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A Collected: 3/30/07
 Project Name: FRONTIER HARD CHROME LONG-TER Matrix: Liquid
 Project Officer: CLAIRE HONG Sample Number: 07134101
 Account Code: 07T10P302DD2C1027LA00 Type: Reg sample
 Station Description: W-85-23A (3-40mL VIALS)

	Result	Units	Qlfr
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GCMS

Parameter	Volatiles	Container ID:	NJ
Method	8260-M	Analysis Date:	4/6/2007
Prep Method	VOA	Prep Date:	
Analytes(s)			
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L U
71556	1,1,1-Trichloroethane	1.0	ug/L U
79005	1,1,2-Trichloroethane	1.0	ug/L U
75343	1,1-Dichloroethane	1.0	ug/L U
75354	1,1-Dichloroethene	2.0	ug/L U
513882	1,1-Dichloropropanone	5.0	ug/L UJ
563586	1,1-Dichloropropene	1.0	ug/L U
87616	1,2,3-Trichlorobenzene	1.0	ug/L U
96184	1,2,3-Trichloropropane	2.0	ug/L U
120821	1,2,4-Trichlorobenzene	1.0	ug/L U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L U
107062	1,2-Dichloroethane	1.0	ug/L U
78875	1,2-Dichloropropane	1.0	ug/L U
142289	1,3-Dichloropropane	1.0	ug/L U
109693	1-Chlorobutane	1.0	ug/L U
594207	2,2-Dichloropropane	1.0	ug/L U
78933	2-Butanone	2.0	ug/L U
95498	2-Chlorotoluene	1.0	ug/L U
591786	2-Hexanone	4.0	ug/L U
79469	2-Nitropropane	2.0	ug/L U
108101	2-Pentanone, 4-methyl-	2.0	ug/L U
67641	2-Propanone	2.0	ug/L U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L U
106434	4-Chlorotoluene	1.0	ug/L U
79209	Acetic acid, methyl ester	2.0	ug/L U
107131	Acrylonitrile	1.0	ug/L U
107051	Allyl Chloride	1.0	ug/L U
71432	Benzene	1.0	ug/L U
98828	Benzene, (1-methylethyl)-	2.0	ug/L U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L U
95501	Benzene, 1,2-dichloro-	1.0	ug/L U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L U
541731	Benzene, 1,3-dichloro-	1.0	ug/L U
106467	Benzene, 1,4-dichloro-	1.0	ug/L U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L U
108907	Benzene, chloro-	1.0	ug/L U
100425	Benzene, ethenyl-	2.0	ug/L U
103651	Benzene, propyl-	1.0	ug/L U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromoform	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	0.63	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	24	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	110	%Rec
	17060070	1,2-Dichloroethane-d4	113	%Rec
	540363	Benzene, 1,4-difluoro-	106	%Rec
	460004	p-Bromofluorobenzene	88	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Surrogate(s): 2037265	Toluene-d8	84	%Rec	

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134102
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: W-85-3B (3-40mL VIALS)

	Result	Units	Qlfr
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GCMS

Parameter	Method	Prep Method	Analytes(s)	Result	Units	Qlfr
Volatiles	8260-M	VOA			Container ID : N1	
					Analysis Date : 4/6/2007	
					Prep Date :	
					ug/L	U
			1,1,1,2-Tetrachloroethane	1.0	ug/L	U
			1,1,1-Trichloroethane	1.0	ug/L	U
			1,1,2-Trichloroethane	1.0	ug/L	U
			1,1-Dichloroethane	1.0	ug/L	U
			1,1-Dichloroethene	2.0	ug/L	U
			1,1-Dichloropropanone	5.0	ug/L	UJ
			1,1-Dichloropropene	1.0	ug/L	U
			1,2,3-Trichlorobenzene	1.0	ug/L	U
			1,2,3-Trichloropropane	2.0	ug/L	U
			1,2,4-Trichlorobenzene	1.0	ug/L	U
			1,2-Dibromo-3-chloropropane	5.0	ug/L	U
			1,2-Dichloroethane	1.0	ug/L	U
			1,2-Dichloropropane	1.0	ug/L	U
			1,3-Dichloropropane	1.0	ug/L	U
			1-Chlorobutane	1.0	ug/L	U
			2,2-Dichloropropane	1.0	ug/L	U
			2-Butanone	2.0	ug/L	U
			2-Chlorotoluene	1.0	ug/L	U
			2-Hexanone	4.0	ug/L	U
			2-Nitropropane	2.0	ug/L	U
			2-Pentanone, 4-methyl-	2.0	ug/L	U
			2-Propanone	2.0	ug/L	U
			2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
			4-Chlorotoluene	1.0	ug/L	U
			Acetic acid, methyl ester	2.0	ug/L	U
			Acrylonitrile	1.0	ug/L	U
			Allyl Chloride	1.0	ug/L	U
			Benzene	1.0	ug/L	U
			Benzene, (1-methylethyl)-	2.0	ug/L	U
			Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
			Benzene, 1,2-dichloro-	1.0	ug/L	U
			Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
			Benzene, 1,3-dichloro-	1.0	ug/L	U
			Benzene, 1,4-dichloro-	1.0	ug/L	U
			Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
			Benzene, chloro-	1.0	ug/L	U
			Benzene, ethenyl-	2.0	ug/L	U
			Benzene, propyl-	1.0	ug/L	U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromochloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	3.5	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	106	%Rec
	17060070	1,2-Dichloroethane-d4	117	%Rec
	540363	Benzene, 1,4-difluoro-	107	%Rec
	460004	p-Bromofluorobenzene	84	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Surrogate(s): 2037265	Toluene-d8	85	%Rec	

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134103
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: W-85-6A (3-40mL VIALS)

	Result	Units	Qlfr
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GCMS

Parameter :	Volatiles	Container ID :	N1
Method :	8260-M	Analysis Date :	4/6/2007
Prep Method :	5030	Prep Date :	
Analytes(s) :			
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L U
71556	1,1,1-Trichloroethane	1.0	ug/L U
79005	1,1,2-Trichloroethane	1.0	ug/L U
75343	1,1-Dichloroethane	1.0	ug/L U
75354	1,1-Dichloroethene	2.0	ug/L U
513882	1,1-Dichloropropanone	5.0	ug/L UJ
563586	1,1-Dichloropropene	1.0	ug/L U
87616	1,2,3-Trichlorobenzene	1.0	ug/L U
96184	1,2,3-Trichloropropane	2.0	ug/L U
120821	1,2,4-Trichlorobenzene	1.0	ug/L U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L U
107062	1,2-Dichloroethane	1.0	ug/L U
78875	1,2-Dichloropropane	1.0	ug/L U
142289	1,3-Dichloropropane	1.0	ug/L U
109693	1-Chlorobutane	1.0	ug/L U
594207	2,2-Dichloropropane	1.0	ug/L U
78933	2-Butanone	2.0	ug/L U
95498	2-Chlorotoluene	1.0	ug/L U
591786	2-Hexanone	4.0	ug/L U
79469	2-Nitropropane	2.0	ug/L U
108101	2-Pentanone, 4-methyl-	2.0	ug/L U
67641	2-Propanone	2.0	ug/L U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L U
106434	4-Chlorotoluene	1.0	ug/L U
79209	Acetic acid, methyl ester	2.0	ug/L U
107131	Acrylonitrile	1.0	ug/L U
107051	Allyl Chloride	1.0	ug/L U
71432	Benzene	1.0	ug/L U
98828	Benzene, (1-methylethyl)-	2.0	ug/L U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L U
95501	Benzene, 1,2-dichloro-	1.0	ug/L U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L U
541731	Benzene, 1,3-dichloro-	1.0	ug/L U
106467	Benzene, 1,4-dichloro-	1.0	ug/L U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L U
108907	Benzene, chloro-	1.0	ug/L U
100425	Benzene, ethenyl-	2.0	ug/L U
103651	Benzene, propyl-	1.0	ug/L U

07134103 Reg sample

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromoform	1.0	ug/L
	75274	Bromochloromethane	1.0	ug/L
	75252	Bromodichloromethane	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	0.59	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	109	%Rec
	17060070	1,2-Dichloroethane-d4	115	%Rec
	540363	Benzene, 1,4-difluoro-	107	%Rec
	460004	p-Bromofluorobenzene	89	%Rec

5/16/07

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Report by Parameter for Project TEC-892A

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		Result	Units	Qlfr
Surrogate(s): 2037265	Toluene-d8	88	%Rec	

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134104
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: W-85-6B (3-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID : N1
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Analytes(s)				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromochloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylcther (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	3.3	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	110	%Rec
	17060070	1,2-Dichloroethane-d4	118	%Rec
	540363	Benzene, 1,4-difluoro-	104	%Rec
	460004	p-Bromofluorobenzene	85	%Rec

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	Result	Units	Qlfr
Surrogate(s): 2037265	Toluene-d8	87	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134105
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: W-85-7A (3-40mL VIALS)

	Result	Units	Qlfr
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GCMS

Parameter	: Volatiles	Container ID : N1			
Method	: 8260-M	VOA	Analysis Date : 4/6/2007		
Prep Method	: 5030	Prep Date :			
Analytes(s):					
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U	
71556	1,1,1-Trichloroethane	1.0	ug/L	U	
79005	1,1,2-Trichloroethane	1.0	ug/L	U	
75343	1,1-Dichloroethane	1.0	ug/L	U	
75354	1,1-Dichloroethene	2.0	ug/L	U	
513882	1,1-Dichloropropanone	5.0	ug/L	UJ	
563586	1,1-Dichloropropene	1.0	ug/L	U	
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U	
96184	1,2,3-Trichloropropane	2.0	ug/L	U	
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U	
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U	
107062	1,2-Dichloroethane	1.0	ug/L	U	
78875	1,2-Dichloropropane	1.0	ug/L	U	
142289	1,3-Dichloropropane	1.0	ug/L	U	
109693	1-Chlorobutane	1.0	ug/L	U	
594207	2,2-Dichloropropane	1.0	ug/L	U	
78933	2-Butanone	2.0	ug/L	U	
95498	2-Chlorotoluene	1.0	ug/L	U	
591786	2-Hexanone	4.0	ug/L	U	
79469	2-Nitropropane	2.0	ug/L	U	
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U	
67641	2-Propanone	2.0	ug/L	U	
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U	
106434	4-Chlorotoluene	1.0	ug/L	U	
79209	Acetic acid, methyl ester	2.0	ug/L	U	
107131	Acrylonitrile	1.0	ug/L	U	
107051	Allyl Chloride	1.0	ug/L	U	
71432	Benzene	1.0	ug/L	U	
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U	
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U	
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U	
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U	
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U	
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U	
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U	
108907	Benzene, chloro-	1.0	ug/L	U	
100425	Benzene, ethenyl-	2.0	ug/L	U	
103651	Benzene, propyl-	1.0	ug/L	U	

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, teri-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromochloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Frcon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Mcthacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	scc-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.2	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	115	%Rec
	17060070	1,2-Dichloroethane-d4	119	%Rcc
	540363	Benzene, 1,4-difluoro-	106	%Rec
	460004	p-Bromofluorobenzene	86	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Surrogate(s): 2037265	Toluene-d8	88	%Rec	

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Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134106
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: W-85-7B (3-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID : N1
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Analytes(s):				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl ester	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromo(chloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.0	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	108	%Rec
	17060070	1,2-Dichloroethane-d4	120	%Rec
	540363	Benzene, 1,4-difluoro-	107	%Rec
	460004	p-Bromofluorobenzene	87	%Rec

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		Result	Units	Qlfr
Surrogate(s): 2037265	Toluene-d8	85	%Rec	

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A Collected: 3/30/07
 Project Name: FRONTIER HARD CHROME LONG-TER Matrix: Liquid
 Project Officer: CLAIRE HONG Sample Number: 07134107
 Account Code: 07T10P302DD2C1027LA00 Type: Reg sample
 Station Description: B-87-8 (3-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	: Volatiles			Container ID : N1
Method	: 8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	: 5030			Prep Date :
Analytes(s)				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

07134107 Reg.sample

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromochloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.4	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.0	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ng/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	114	%Rec
	17060070	1,2-Dichloroethane-d4	120	%Rec
	540363	Benzene, 1,4-difluoro-	108	%Rec
	460004	p-Bromofluorobenzene	87	%Rec

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Report by Parameter for Project TEC-892A

		Result	Units	<u>Qlfr</u>
Surrogate(s): 2037265	Toluene-d8	84	%Rec	

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Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134108
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: B-85-4 (6-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID : N1
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Analytes(s):				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

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		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromochloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	0.89	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.0	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	111	%Rec
	17060070	1,2-Dichloroethane-d4	122	%Rec
	540363	Benzene, 1,4-difluoro-	109	%Rec
	460004	p-Bromofluorobenzene	83	%Rec

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Report by Parameter for Project TEC-892A

			Result	Units	Qlfr
Surrogate(s):	2037265	Toluene-d8	82	%Rec	
Parameter :	Volatiles - Tentatives			Container ID:	NI
Method :	8260-M	VOA		Analysis Date:	4/6/2007
Prep Method :	5030			Prep Date:	
Analytes(s):	18952415	Formamide, N-methylthio	0.67	ug/L	NJ

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Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134108
Account Code: 07T10P302DD2C1027LA00 **Type:** Matrix Spike
Station Description:

		Result	Units	Qlfr
GCMS				
Parameter	: Volatiles			Container ID : N2
Method	: 8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	: 5030			Prep Date :
Surrogate(s):	630206	101	%Rec	
	71556	108	%Rec	
	79005	104	%Rec	
	75343	102	%Rec	
	75354	105	%Rec	
	563586	102	%Rec	
	87616	97	%Rec	
	96184	101	%Rec	
	120821	89	%Rec	
	96128	93	%Rec	
	2199691	96	%Rcc	
	107062	106	%Rec	
	17060070	110	%Rec	
	78875	104	%Rec	
	142289	99	%Rec	
	594207	83	%Rec	
	78933	113	%Rec	
	95498	101	%Rec	
	591786	104	%Rcc	
	108101	108	%Rec	
	67641	152	%Rec	
	106434	104	%Rec	
	107051	98	%Rec	
	71432	104	%Rec	
	98828	93	%Rcc	
	95636	97.0	%Rec	
	95501	97	%Rec	
	108678	92	%Rcc	
	541731	107	%Rec	
	106467	100	%Rec	
	540363	101	%Rec	
	99876	92	%Rec	
	108907	103	%Rec	
	100425	104	%Rec	
	103651	99	%Rec	
	98066	88	%Rec	
	108861	98	%Rec	
	74975	107	%Rec	

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		Result	Units	Qlfr
Surrogate(s):	75274	95	%Rec	
	75252	89	%Rec	
	74839	102	%Rec	
	75150	105	%Rec	
	56235	102	%Rec	
	156592	101	%Rec	
	10061015	81	%Rec	
	110827	104	%Rec	
	108872	100	%Rec	
	124481	90	%Rec	
	74953	103	%Rec	
	79345	103	%Rec	
	106934	107	%Rec	
	156605	109	%Rec	
	79016	98	%Rec	
	75003	121	%Rec	
	100414	111	%Rec	
	75694	117	%Rec	
	76131	106	%Rec	
	75718	96	%Rec	
	109999	107	%Rec	
	87683	97	%Rec	
	67721	95	%Rec	
	74873	101	%Rec	
	67663	110	%Rec	
	1634044	104	%Rec	
	75092	106	%Rec	
	*1330207	115	%Rec	
	91203	94	%Rec	
	104518	90	%Rec	
	95476	97	%Rec	
	460004	110	%Rec	
	76017	89	%Rec	
	135988	91	%Rec	
	127184	98	%Rec	
	108883	102	%Rec	
	2037265	99	%Rec	
	10061026	85	%Rec	
	75014	73	%Rec	

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Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134108
Account Code: 07T10P302DD2C1027LA00 **Type:** Matrix Spike Dupl
Station Description:

		Result	Units	Qlfr
GCMS				
Parameter	: Volatiles			Container ID : N3
Method	: 8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	: 5030			Prep Date :
Surrogate(s):	630206	1,1,1,2-Tetrachloroethane	96	%Rec
	71556	1,1,1-Trichloroethane	102	%Rec
	79005	1,1,2-Trichloroethane	100	%Rec
	75343	1,1-Dichloroethane	105	%Rec
	75354	1,1-Dichloroethene	105	%Rec
	563586	1,1-Dichloropropene	111	%Rec
	87616	1,2,3-Trichlorobenzene	94	%Rec
	96184	1,2,3-Trichloropropane	97	%Rec
	120821	1,2,4-Trichlorobenzene	90	%Rec
	96128	1,2-Dibromo-3-chloropropane	85	%Rec
	2199691	1,2-Dichlorobenzene-d4	95	%Rec
	107062	1,2-Dichloroethane	107	%Rec
	17060070	1,2-Dichloroethane-d4	104	%Rec
	78875	1,2-Dichloropropane	104	%Rec
	142289	1,3-Dichloropropane	98	%Rec
	594207	2,2-Dichloropropane	84	%Rec
	78933	2-Butanone	107	%Rec
	95498	2-Chlorotoluene	101	%Rec
	591786	2-Hexanone	100	%Rec
	108101	2-Pentanone, 4-methyl-	109	%Rec
	67641	2-Propanone	134	%Rec
	106434	4-Chlorotoluene	102	%Rec
	107051	Allyl Chloride	101	%Rec
	71432	Benzene	106	%Rec
	98828	Benzene, (1-methylethyl)-	95	%Rec
	95636	Benzene, 1,2,4-trimethyl-	96	%Rec
	95501	Benzene, 1,2-dichloro-	95	%Rec
	108678	Benzene, 1,3,5-trimethyl-	93	%Rec
	541731	Benzene, 1,3-dichloro-	104	%Rec
	106467	Benzene, 1,4-dichloro-	97	%Rec
	540363	Benzene, 1,4-difluoro-	99	%Rec
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	92	%Rec
	108907	Benzene, chloro-	102	%Rec
	100425	Benzene, ethenyl-	105	%Rec
	103651	Benzene, propyl-	97	%Rec
	98066	Benzene, tert-butyl-	89	%Rec
	108861	Bromobenzene	97	%Rec
	74975	Bromochloromethane	109	%Rec

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		Result	Units	Qlfr
Surrogate(s):	75274	95	%Rec	
	75252	81	%Rec	
	74839	104	%Rec	
	75150	103	%Rec	
	56235	99	%Rec	
	156592	108	%Rec	
	10061015	84	%Rec	
	110827	106	%Rec	
	108872	104	%Rec	
	124481	86	%Rec	
	74953	101	%Rec	
	79345	100	%Rec	
	106934	110	%Rec	
	156605	110	%Rec	
	79016	103	%Rec	
	75003	115	%Rec	
	100414	108	%Rec	
	75694	113	%Rec	
	76131	107	%Rec	
	75718	95	%Rec	
	109999	112	%Rec	
	87683	91	%Rec	
	67721	95	%Rec	
	74873	108	%Rec	
	67663	106	%Rec	
	1634044	105	%Rec	
	75092	108	%Rec	
	*1330207	115	%Rec	
	91203	93	%Rec	
	104518	89	%Rec	
	95476	101	%Rec	
	460004	109	%Rec	
	76017	88	%Rec	
	135988	91	%Rec	
	127184	99	%Rec	
	108883	101	%Rec	
	2037265	99	%Rec	
	10061026	79	%Rec	
	75014	79	%Rec	

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Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134109
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: RA-MW-12A (3-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID : N1
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Analytes(s)				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	4.3	ug/L	J
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

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		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromochloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	16	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	7.3	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	scc-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.0	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	111	%Rec
	17060070	1,2-Dichloroethane-d4	117	%Rec
	540363	Benzene, 1,4-difluoro-	110	%Rec
	460004	p-Bromofluorobenzene	89	%Rec

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Report by Parameter for Project TEC-892A

			Result	Units	Qlfr
Surrogate(s):	2037265	Toluene-d8	90	%Rec	
Parameter :	Volatiles - Tentatives			Container ID :	N1
Method :	8260-M	VOA		Analysis Date :	4/6/2007
Prep Method :	5030			Prep Date :	
Analytes(s):	18952415 74931	Formamide, N-methylthio Methanethiol	0.62 1.9	ug/L ug/L	NJ NJ

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134110
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: RA-MW-12B (3-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID : N1
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Analytes(s):				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl ester	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromoform	1.0	ug/L
	75274	Bromochloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	11	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	0.87	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.3	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	0.60	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.0	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	114	%Rec
	17060070	1,2-Dichloroethane-d4	117	%Rec
	540363	Benzene, 1,4-difluoro-	107	%Rec
	460004	p-Bromofluorobenzene	85	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

			Result	Units	Qlfr
Surrogate(s):	2037265	Toluene-d8	86	%Rec	
Parameter :	Volatiles - Tentatives				Container ID : N1
Method :	8260-M	VOA			Analysis Date : 4/6/2007
Prep Method :	5030				Prep Date :
Analytes(s):	*3008001	Unknown 01	2.3	ug/L	NJ

07134110 Reg sample

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:** 3/30/07
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** 07134111
Account Code: 07T10P302DD2C1027LA00 **Type:** Reg sample
Station Description: MW-24A (3-40mL VIALS)

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID : N1
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Analytes(s)				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	UJ
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromoformmethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	7.3	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	8.1	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.0	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	101	%Rec
	17060070	1,2-Dichloroethane-d4	123	%Rec
	540363	Benzene, 1,4-difluoro-	109	%Rec
	460004	p-Bromofluorobenzene	84	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

	Result	Units	Qfr
Surrogate(s): 2037265 Toluene-d8	81	%Rec	

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:**
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** JBW7096
Account Code: 07T10P302DD2C1027LA00 **Type:** Blank
Station Description:

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID :
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Analytes(s):				
630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
71556	1,1,1-Trichloroethane	1.0	ug/L	U
79005	1,1,2-Trichloroethane	1.0	ug/L	U
75343	1,1-Dichloroethane	1.0	ug/L	U
75354	1,1-Dichloroethene	2.0	ug/L	U
513882	1,1-Dichloropropanone	5.0	ug/L	U
563586	1,1-Dichloropropene	1.0	ug/L	U
87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
96184	1,2,3-Trichloropropane	2.0	ug/L	U
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
96128	1,2-Dibromo-3-chloropropane	5.0	ug/L	U
107062	1,2-Dichloroethane	1.0	ug/L	U
78875	1,2-Dichloropropane	1.0	ug/L	U
142289	1,3-Dichloropropane	1.0	ug/L	U
109693	1-Chlorobutane	1.0	ug/L	U
594207	2,2-Dichloropropane	1.0	ug/L	U
78933	2-Butanone	2.0	ug/L	U
95498	2-Chlorotoluene	1.0	ug/L	U
591786	2-Hexanone	4.0	ug/L	U
79469	2-Nitropropane	2.0	ug/L	U
108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
67641	2-Propanone	2.0	ug/L	U
80626	2-Propenoic acid, 2-methyl-, m ethyl este	1.0	ug/L	U
106434	4-Chlorotoluene	1.0	ug/L	U
79209	Acetic acid, methyl ester	2.0	ug/L	U
107131	Acrylonitrile	1.0	ug/L	U
107051	Allyl Chloride	1.0	ug/L	U
71432	Benzene	1.0	ug/L	U
98828	Benzene, (1-methylethyl)-	2.0	ug/L	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/L	U
95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/L	U
541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/L	U
108907	Benzene, chloro-	1.0	ug/L	U
100425	Benzene, ethenyl-	2.0	ug/L	U
103651	Benzene, propyl-	1.0	ug/L	U

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Analytes(s):	98066	Benzene, tert-butyl-	5.0	ug/L
	108861	Bromobenzene	1.0	ug/L
	74975	Bromo(chloromethane	1.0	ug/L
	75274	Bromodichloromethane	1.0	ug/L
	75252	Bromoform	1.0	ug/L
	74839	Bromomethane	2.0	ug/L
	75150	Carbon disulfide	2.0	ug/L
	56235	Carbon Tetrachloride	1.0	ug/L
	156592	cis-1,2-Dichloroethene	1.0	ug/L
	10061015	cis-1,3-Dichloropropene	1.1	ug/L
	110827	Cyclohexane	1.0	ug/L
	108872	Cyclohexane, methyl-	1.0	ug/L
	124481	Dibromochloromethane	1.0	ug/L
	74953	Dibromomethane	1.0	ug/L
	60297	Diethyl ether	1.0	ug/L
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L
	106934	Ethane, 1,2-dibromo-	1.0	ug/L
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L
	79016	Ethene, trichloro-	1.0	ug/L
	75003	Ethyl Chloride	1.0	ug/L
	100414	Ethylbenzene	1.0	ug/L
	97632	Ethylmethacrylate	5.0	ug/L
	75694	Freon 11	1.0	ug/L
	76131	Freon 113	1.0	ug/L
	75718	Freon 12	1.0	ug/L
	109999	Furan, tetrahydro-	1.0	ug/L
	87683	Hexachlorobutadiene	1.0	ug/L
	67721	Hexachloroethane	1.0	ug/L
	126987	Methacrylonitrile	1.0	ug/L
	74873	Methane, chloro-	2.0	ug/L
	67663	Methane, trichloro-	1.0	ug/L
	96333	Methyl acrylate	1.0	ug/L
	74884	Methyl Iodide	1.0	ug/L
	1634044	Methyl tert butylether (MTBE)	1.0	ug/L
	75092	Methylene Chloride	2.0	ug/L
	*1330207	MP-Xylene	2.0	ug/L
	91203	Naphthalene	2.0	ug/L
	104518	n-Butylbenzene	2.0	ug/L
	95476	o-Xylene	2.0	ug/L
	76017	Pentachloroethane	1.0	ug/L
	135988	sec-Butylbenzene	2.0	ug/L
	127184	Tetrachloroethene	1.0	ug/L
	108883	Toluene	1.0	ug/L
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L
	110576	trans-1,4-Dichloro-2-butene	5.0	ug/L
	75014	Vinyl Chloride	1.0	ug/L
Surrogate(s):	2199691	1,2-Dichlorobenzene-d4	105	%Rec
	17060070	1,2-Dichloroethane-d4	107	%Rec
	540363	Benzene, 1,4-difluoro-	101	%Rec
	460004	p-Bromofluorobenzene	86	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Surrogate(s):	2037265 Toluene-d8	87	%Rec	
Parameter :	Volatiles - Tentatives			Container ID :
Method :	8260-M VOA			Analysis Date : 4/6/2007
Prep Method :	5030			Prep Date :
Analytes(s):	541059 Cyclotrisiloxane, hexamethyl-	0.75	ug/L	NJ

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:**
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** JVW7096
Account Code: 07T10P302DD2C1027LA00 **Type:** LCS
Station Description:

	Result	Units	Qlfr
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GCMS

Parameter	Volatiles	Container ID :	
Method	8260-M	Analysis Date :	4/6/2007
Prep Method	5030	Prep Date :	
Surrogate(s)			
630206	1,1,1,2-Tetrachloroethane	102	%Rec
71556	1,1,1-Trichloroethane	102	%Rec
79005	1,1,2-Trichloroethane	99	%Rec
75343	1,1-Dichloroethane	96	%Rec
75354	1,1-Dichloroethene	99	%Rec
563586	1,1-Dichloropropene	105	%Rec
87616	1,2,3-Trichlorobenzene	101	%Rec
96184	1,2,3-Trichloropropane	96	%Rec
120821	1,2,4-Trichlorobenzene	95	%Rec
96128	1,2-Dibromo-3-chloropropane	96	%Rec
2199691	1,2-Dichlorobenzene-d4	93	%Rec
107062	1,2-Dichloroethane	95	%Rec
17060070	1,2-Dichloroethane-d4	104	%Rec
78875	1,2-Dichloropropane	97	%Rec
142289	1,3-Dichloropropane	96	%Rec
594207	2,2-Dichloropropane	104	%Rec
78933	2-Butanone	104	%Rec
95498	2-Chlorotoluene	89	%Rec
591786	2-Hexanone	105	%Rec
108101	2-Pentanone, 4-methyl-	111	%Rec
67641	2-Propanone	132	%Rec
106434	4-Chlorotoluene	95	%Rec
107051	Allyl Chloride	104	%Rec
71432	Benzene	102	%Rec
98828	Benzene, (1-methylethyl)-	90	%Rec
95636	Benzene, 1,2,4-trimethyl-	91	%Rec
95501	Benzene, 1,2-dichloro-	90	%Rec
108678	Benzene, 1,3,5-trimethyl-	87	%Rec
541731	Benzene, 1,3-dichloro-	96	%Rec
106467	Benzene, 1,4-dichloro-	97	%Rec
540363	Benzene, 1,4-difluoro-	100	%Rec
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	92	%Rec
108907	Benzene, chloro-	97	%Rec
100425	Benzene, ethenyl-	98	%Rec
103651	Benzene, propyl-	95	%Rec
98066	Benzene, tert-butyl-	85	%Rec
108861	Bromobenzene	91	%Rec
74975	Bromochloromethane	101	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Surrogate(s):	75274	Bromodichloromethane	104	%Rec
	75252	Bromoform	112	%Rec
	74839	Bromomethane	94	%Rec
	75150	Carbon disulfide	96	%Rec
	56235	Carbon Tetrachloride	104	%Rec
	156592	cis-1,2-Dichloroethene	96	%Rec
	10061015	cis-1,3-Dichloropropene	107	%Rec
	110827	Cyclohexane	102	%Rec
	108872	Cyclohexane, methyl-	103	%Rec
	124481	Dibromochloromethane	101	%Rec
	74953	Dibromomethane	102	%Rec
	79345	Ethane, 1,1,2,2-tetrachloro-	101	%Rec
	106934	Ethane, 1,2-dibromo-	106	%Rec
	156605	Ethene, 1,2-dichloro-, (E)-	97	%Rec
	79016	Ethene, trichloro-	97	%Rec
	75003	Ethyl Chloride	95	%Rec
	100414	Ethylbenzene	100	%Rec
	75694	Freon 11	94	%Rec
	76131	Freon 113	103	%Rec
	75718	Freon 12	86	%Rec
	109999	Furan, tetrahydro-	121	%Rec
	87683	Hexachlorobutadiene	96	%Rec
	67721	Hexachloroethane	94	%Rec
	74873	Methane, chloro-	90	%Rec
	67663	Methane, trichloro-	98	%Rec
	1634044	Methyl tert butylcether (MTBE)	100	%Rec
	75092	Methylene Chloride	99	%Rec
	*1330207	MP-Xylene	106	%Rec
	91203	Naphthalene	97	%Rec
	104518	n-Butylbenzene	89	%Rec
	95476	o-Xylene	94	%Rec
	460004	p-Bromofluorobenzene	107	%Rec
	76017	Pentachloroethane	92	%Rec
	135988	sec-Butylbenzene	87	%Rec
	127184	Tetrachloroethene	95	%Rec
	108883	Toluene	96	%Rec
	2037265	Toluene-d8	105	%Rec
	10061026	Trans-1,3-Dichloropropene	102	%Rec
	75014	Vinyl Chloride	91	%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

Project Code: TEC-892A **Collected:**
Project Name: FRONTIER HARD CHROME LONG-TER **Matrix:** Liquid
Project Officer: CLAIRE HONG **Sample Number:** LCS7096
Account Code: 07T10P302DD2C1027LA00 **Type:** LCSD
Station Description:

		Result	Units	Qlfr
GCMS				
Parameter	Volatiles			Container ID :
Method	8260-M	VOA		Analysis Date : 4/6/2007
Prep Method	5030			Prep Date :
Surrogate(s)				
630206	1,1,1,2-Tetrachloroethane	93		%Rec
71556	1,1,1-Trichloroethane	97		%Rec
79005	1,1,2-Trichloroethane	94		%Rec
75343	1,1-Dichloroethane	98		%Rec
75354	1,1-Dichloroethene	101		%Rec
563586	1,1-Dichloropropene	103		%Rec
87616	1,2,3-Trichlorobenzene	94		%Rec
96184	1,2,3-Trichloropropane	93		%Rec
120821	1,2,4-Trichlorobenzene	92		%Rec
96128	1,2-Dibromo-3-chloropropane	83		%Rec
2199691	1,2-Dichlorobenzene-d4	95		%Rec
107062	1,2-Dichloroethane	101		%Rec
17060070	1,2-Dichloroethane-d4	105		%Rec
78875	1,2-Dichloropropane	93		%Rec
142289	1,3-Dichloropropane	97		%Rec
594207	2,2-Dichloropropane	107		%Rec
78933	2-Butanone	105		%Rec
95498	2-Chlorotoluene	93		%Rec
591786	2-Hexanone	98		%Rec
108101	2-Pentanone, 4-methyl-	103		%Rec
67641	2-Propanone	117		%Rec
106434	4-Chlorotoluene	101		%Rec
107051	Allyl Chloride	106		%Rec
71432	Benzene	96		%Rec
98828	Benzene, (1-methylethyl)-	93		%Rec
95636	Benzene, 1,2,4-trimethyl-	91		%Rec
95501	Benzene, 1,2-dichloro-	89		%Rec
108678	Benzene, 1,3,5-trimethyl-	89		%Rec
541731	Benzene, 1,3-dichloro-	94		%Rec
106467	Benzene, 1,4-dichloro-	94		%Rec
540363	Benzene, 1,4-difluoro-	101		%Rec
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	91		%Rec
108907	Benzene, chloro-	96		%Rec
100425	Benzene, ethenyl-	98		%Rec
103651	Benzene, propyl-	97		%Rec
98066	Benzene, tert-butyl-	84		%Rec
108861	Bromobenzene	94		%Rec
74975	Bromochloromethane	104		%Rec

Manchester Environmental Laboratory
Report by Parameter for Project TEC-892A

		Result	Units	Qlfr
Surrogate(s):	75274	94	%Rec	
	75252	106	%Rec	
	74839	97	%Rec	
	75150	99	%Rec	
	56235	98	%Rec	
	156592	99	%Rec	
	10061015	96	%Rec	
	110827	102	%Rec	
	108872	103	%Rec	
	124481	96	%Rec	
	74953	96	%Rec	
	79345	96	%Rec	
	106934	103	%Rec	
	156605	104	%Rec	
	79016	95	%Rec	
	75003	97	%Rec	
	100414	101	%Rec	
	75694	97	%Rec	
	76131	102	%Rec	
	75718	89	%Rec	
	109999	111	%Rec	
	87683	92	%Rec	
	67721	91	%Rec	
	74873	96	%Rec	
	67663	103	%Rec	
	1634044	103	%Rec	
	75092	99	%Rec	
	*1330207	104	%Rec	
	91203	93	%Rec	
	104518	89	%Rec	
	95476	96	%Rec	
	460004	108	%Rec	
	76017	87	%Rec	
	135988	88	%Rec	
	127184	94	%Rec	
	108883	94	%Rec	
	2037265	101	%Rec	
	10061026	95	%Rec	
	75014	94	%Rec	

APPENDIX C

DATA VALIDATION MEMORANDUM

EXCEPTION SUMMARY FOR LABORATORY DATA QUALITY ASSURANCE REVIEW

DATA SUMMARY

The laboratory data quality assurance review and validation of analytical results for 41 water samples, Project Number 1260-07, collected between 29 March 2007 and 01 April 2007 from the Frontier Hard Chrome site has been completed. This review incorporates sample results for other metals for assessment purposes, but applies only to the following analyses:

- Total recoverable and dissolved chromium by Washington State Department of Ecology's (WDOE) Manchester Environmental Laboratory (MEL), of Port Orchard, Washington, following EPA Method 200.8 – inductively-coupled plasma/mass spectrometry (IC/MS).

Quality assurance/quality control (QA/QC) reviews of laboratory procedures were performed on an ongoing basis by the laboratory. A data review was performed by the laboratory QA section on laboratory quality control results to ensure they met method quality objectives for the project. Data review followed the format outlined in the *National Functional Guidelines for Inorganic Data Review* (EPA 2004), modified to include specific criteria specified in the *Frontier Hard Chrome Long-Term Monitoring Plan* (Work Plan; Weston 2004). Raw laboratory data including calibrations, sample login forms, sample preparation logs and bench sheets, mass spectral tuning data, and raw instrument data were not available for this review.

This is an exception summary. All laboratory quality assurance results as applicable (e.g., holding times; blank sample analysis, matrix spike/duplicate spike analysis, and laboratory control sample analysis results) supplied to Weston for the analyses met acceptance criteria specified in the Work Plan (Weston 2004), with no exceptions noted for chromium analyses.

DATA QUALIFICATION

No QA/QC exceptions were noted in the data review associated with the analysis of total recoverable and dissolved chromium. Upon consideration of the data qualifications noted above and the project data quality objectives specified in the QAPP, the data are ACCEPTABLE for use.

DATA QUALIFIERS

If required, any data qualifiers applied by the laboratory have been removed from the data summary sheets and superseded by data validation qualifiers.

The following data validation qualifiers were used to modify the data quality and usefulness of individual analytical results.

U - The analyte was not detected at the given quantitation limit.

DATA ASSESSMENT

Data review was performed by an experienced quality assurance chemist independent of the analytical laboratory and not directly involved in the project.

This is to certify that I have examined the analytical data and based on the information provided to me by the laboratory, in my professional judgment the data are acceptable for use except where qualified with qualifiers that modify the usefulness of those individual values.

Original signed

R. Paul Swift, Ph.D., P.E.
Chief Chemist

May 24, 2007

Date